SCHOLASTIC METAPHYSICS

By

JOHN F. McCORMICK, S.J.

Professor of Philosophy in Marquette University

Milwaukee, Wisconsin

PART I

Being, Its Divisions and Causes

"The Study of Philosophy is not that we may know what men have thought, but what the truth of things is."

—St Thomas: I De Coelo et Mundo, lect. 22

LOYOLA UNIVERSITY PRESS

Chicago, Illinois

1928

Imprimi potest,

Matthaeus Germing, S. J.

Praepositus Provincialis

Nihil obstat,

Gulielmus H. Agnew, S. JL,

Censor Deputatus

Imprimatur,

* Georgius Cardinalis Mundelein,

Archiepiscopus Chicagiensis

COPYRIGHT, 1928
BY
LOYOLA UNIVERSITY
CHICAGO, ILL.

Composed and printed by
Loyola Univsksity Pbms
Chicago, Illinois, U. S. A.

PREFACE

The aim of the present writer is to offer to beginners in philosophy an exposition of the principles of Scholastic Metaphysics, especially, though not exclusively, as these principles can be drawn from St. Thomas Aquinas. Scholasticism is, of course, wider and richer than the synthesis of St. Thomas, great as the latter is, and it would be an error so to identify the two as to leave unrecognized or unrecorded what has been contributed by others. Still it cannot be forgotten that for the renewal of life which Scholasticism has experienced in recent years the awakened interest in the writings of St. Thomas is responsible. It is not inappropriate, then, that the beginner in philosophy should be introduced to Scholasticism mostly through the teachings of St. Thomas, and, as far as such a thing is possible at this stage, should make acquaintance with the most important of his writings. As an incentive to this numerous citations and references to the works of St. Thomas are given throughout the text.

The writer has not felt bound to observe the customary division of the subject into Ontology, Cosmology, etc. Such divisions have no necessary connection with Scholastic philosophy, but are rather accretions from a foreign

source. Besides it has always seemed to the writer that the effort to keep to these divisions entails a needless amount of overlapping in the treatment of the subject.

Neither has it seemed necessary or even desirable to adhere to the "thesis" form of presentation which has come to be customary in the Latin manuals. It was felt that it would be of greater advantage to the student if he were to work out the "theses" himself from the materials presented in the text and references. For this purpose each chapter is followed by a list of propositions to be explained and demonstrated. One who has worked out these "theses" for himself should have a better grasp of his subject than could be obtained from any mere study of what had been worked out for him by another.

To attempt to write a textbook in Scholastic Metaphysics means to venture to go over ground that has been covered repeatedly, though not so often, and certainly not in an entirely satisfactory manner, in English. In such a textbook originality will be confined mostly to the manner of presentation; and while indebtedness can be acknowledged, it can hardly be pointed out in any detail. Coffey: *Ontology,* Rickaby: *General Metaphysics,* Descoqs: *Institutiones Metaphysicae Generalis* and Gredt: *Elementa Philosophiae Aristotelico-Thomisticae* have been of most use in preparing this text.

The writer wishes to express his grateful appreciation of the assistance given by Mr. John Orth Riedl, A. B., of the department of Philosophy of Marquette University, in the reading of proofs and in the preparation of the index.

Marquette University
Milwaukee, Wisconsin
March 7, 1928

CONTENTS

Preface III
Selected Biography XIII

Chapter I. The Meaning and Use of Metaphysics
1. Origin, Purpose and Divisions of Philosophy 1
2. The Meaning and Importance of Metaphysics.—Suarez on metaphysics; formal object of metaphysics; presuppositions of metaphysics 4
3. Scholastic Philosophy.-—Sources of Scholastic philosophy; "Summa Theologica"; scope of this treatise 11
Summary: propositions to be explained and established; suggestions for further study; references .. 14

Chapter II. The Concept of Being
1. The Meaning of Bcing-in-general.—the real and the unreal; nothing; first principles derived from the notion of being 17
2. The Unity of the Concept of Being 22
3. The Analogy of Being—first divisions of being; kinds of being; actual and potential being; infinite being and finite being; necessary being and contingent being; immutable and mutable being; eternal being and temporal being; absolute and relative being; ideal being and logical being 24
Summary: propositions to be explained and established; suggestions for further study; references 34

Chapter III. Essence and Existence
1. The Meaning of Essence and Existence .....
2. The Controversy on Essence and Existence .....
3. The Knowledge of Essence.—proofs of the knowability of essence; essence, substance and nature .. 42
Summary: propositions to be explained and established; suggestions for further study; references 45

Chapter IV. Possibility and Actuality

1. The Meaning and Kinds of Possibility.—impossibility; divisions of possibility; actuality; axioms in regard to potency and act; applications of potency and act 47
2. The Ultimate Reason of the Possibles.—Ockam and Descartes; the ultimate foundation in the Divine Essence; possibility and intelligibility..... 51
3. Change.—denial of change; kinds of change; real change; accidental and substantial change; only the actual can reduce potency to act..... 56

Summary: propositions to be explained and established; suggestions for further study; references 60

Chapter V. The Transcendental Attributes of Being

1. The Meaning and Number of the Transccndcntals.—St. Thomas's schematization of the transcendentals 63
2. Unity, Identity and Distinction:—kinds of unity; unity a transcendental notion; multitude; number; kinds of distinction; unique being..... 65
3. Truth and Falsity.—ontological truth; truth a transcendental notion; truth not a reality distinct from being; relativity of truth; meaning of falsity..... 72
4. Good and Evil.—kinds of goodness; good a transcendental notion; in what evil consists; no principle of evil; evil and Providence..... 78
5. Beauty.—beauty of being; beauty not purely subjective; Aristotle on beauty; St. Thomas on beauty; is beauty a transcendental attribute?..... 84

Summary: propositions to be explained and established; suggestions for further study; references 90

Chapter VI. Substance and Accident

1. The Meaning of Substance and Accident.—being *in alio;* being *per se;* the essence of substance; substance as substrate; substance as applied to God.. 94
2. The Validity of the Notion of Substance.—the existence of substance; criticism of some definitions of substance; pantheism 100

3. The Nature of Accidents—Their Distinction and Separability.—the reality of accidents; substance not made up of accidents; separate existence of accidents ..... IM
4. Nature and Person.—substance as subject; distinction of person and nature; personality does not imply limitation 109
Summary: propositions to be explained and established; suggestions for further study; references 112

Chapter VII. Quantity—Space—Time
1. Extension of Bodies and Its Relation to the Parts of the Body and the Presence of the Body in Space 116
2. Quantity and Its Formal Effect.—quantity distinct from material substance..... 117
3. Space and Place.—imaginary and real space; nature of space; presence in space..... 120
4. Duration.—successive duration, time; what time is; duration without succession, eternity..... 123
Summary: propositions to be explained and established; suggestions for further study; references 124

Chapter VIII. Qualities—Habit—Relation
1. Qualities and Their Kinds.—Existence of qualities; characteristics of qualities..... 126
2. Habit and Disposition.—meaning of habit; supernatural habits; powers affected by habits; acquiring habits; what habit is ontologically..... 128
3. Relation.—absolute and relative being; meaning of relation; requirements for real relation; foundation of relations; existence of real relation.....132
Summary: propositions to be explained and established; suggestions for further study; references 138

Chapter IX. Cause; Efficient and Final Causes
1. The Meaning of Cause.—the sufficient reason; the principle of casuality; reason and cause; principle and cause; principiate; priority of cause to effect; condition; occasion 140

2. Division of Causes.—Aristotle's four causes; kinds of efficient causes; the First Cause; instrumental causes 145
3. Validity of the Idea of Efficient Cause.—attacks on casuality; Hume on Casuality; cause in Kantian philosophy; occasionalism 148
4. Axioms in Regard to Efficient Cause 154
5. The Final Cause.—casuality of the final cause; existence of final causes; St. Thomas on final causes 156
Summary: propositions to be explained and established; suggestions for further study; references 159

Chapter X. Material and Formal Causes. Theories of the Constitution of Inorganic Bodies
1. The Nature of Constituent Causes.—material cause; formal cause; exemplary cause; relation of material and formal causes to substantial change.... 163
2. Theories of the Constitution of Inorganic Bodies.—the constitution of matter in early Greek philosophy; the atomic theories; modern atomism; dynamism; Leibnitz's parallelism; theory of Boscovich; energism; the electron theory of matter.... 166
Summary: propositions to be explained and established; suggestions for further study; references 175

Chapter XI. Material and Formal Causes (cont'd). The Aristotelian-Scholastic Theory
1. The Meaning of Hylemorphism.—matter and form essential parts of material substance; prime matter is potentiality; prime matter and material substance 177
2. Description of the Constituents of Bodies.—St. Thomas on prime matter; second matter; substantial form; casuality of intrinsic causes; origin of substantial form; the human soul an exception as to origin; education of substantial form; unity of substantial form 180
3. The Proof of Hylemorphism.—proof from substantial change 187

Summary: propositions to be explained and established; suggestions for further study; references 189

Chapter XII. Matter and Form and the Organism

1. The Nature of Life.—life as a problem for metaphysics; St. Thomas on life; characteristics of living organisms 191
2. The Explanation of Organic Life.—theories of organic life; mechanical theory of life; the Law of the Conservation of Energy; vitalism and neovitalism; reasons for requiring a life principle in organisms; the principle of organic life is not spiritual 194
3. The Origin of Organic Life.—relation of metaphysics to the fact of the origin of organic life; biogenesis and abiogenesis 201
4. Grades of Life.—Evolution.—distinction between animal and plant life; species in organic life; fixism and transformism; St. Thomas on the principle of continuity; theories of transformism; or evolution; Darwin; metaphysical aspects of evolution 204

Summary: propositions to lie explained and established; suggestions for further study; references 211

Chapter XIII. Matter and Form and Human Life

1. The Human Soul as Form.—the human compound; St. Thomas on the unity in diversity of the human compound; other theories of human nature 214
2. The Substantiality of the Soul.—meaning of the substantiality of the soul; denials of the substantiality of the soul; reasons for admitting the substantiality of the soul 216
3. The Simplicity and the Spirituality of the Soul.—material and spiritual activities of the human mind; materialism; Professor James; reasons for the spirituality of the soul..... 219

4. Consequences of Spirituality; Creation and Immortality.—origin of the soul; the natural immortality of the soul; Plato; annihilation; the argument from universal belief in the immortality of the soul 226

5. The Union of Soul and Body.—the problem of the relation of soul and body; Plato's theory; theories of Descartes and Leibnitz; the Scholastic theory; St Thomas on the union of soul and body 232

Summary: propositions to be explained and established; suggestions for further study; references 237

SELECTED BIBLIOGRAPHY

St. Anselm, *Proslogium,* English translation by Sidney Norton Deane, B. A. (Chicago: Open Court Publishing Company, 1926).

St. Augustine, *Enchiridion,* English Translation, edited by Rev. Marcus Dods, D. D. (Edinburgh: T. & T. Clark, 1873).

R. H. Benson, *Lourdes* (London: Herder, 1914).

B. Boedder, S. J., *Natural Theology* (2nd ed., London: Longmans, Green and Co., 1906).

W. J. Brosnan, S.J., *God and Reason* (New York: Fordham University Press, 1924).

P. Coffey, *Epistemology* (2 vols., London: Longmans, Green and Co., 1917).

P. Coffey, *Ontology* (2nd Impression, London: Longmans, Green and Co., 1918).

A. C. Cotter, "Scholastic Philosophy," *Thought,* I, 434.

M. DeWulf, *History of Medieval Philosophy,* English Translation by E. C. Messenger (2 vols., New Edition, London: Longmans, Green and Co., 1925; 1927).

M. DeWulf, *Medieval Philosophy* (Cambridge: Harvard University Press, 1922.)

M. DeWulf, *Philosophy and Civilization in the Middle Ages* (Princeton University Press, 1922).

M. DeWulf, *Scholasticism Old and New,* English Translation by P. Coffey (London: Longmans, Green and Co., 1907).

J. T. Driscoll, *Christian Philosophy—God* (New York: Benziger Bros., 1904).

J. T. Driscoll, *Christian Philosophy — The Soul* (New York: Benziger Bros., 1900).

O. F. Dudley, *The Shadow on the Earth* (New York: Longmans, Green and Co., 1927).

T. Dwight, *Thoughts of a Catholic Anatomist* (New York: Longmans, Green and Co., 1911).

J. Egger, S. J., *God and Human Suffering* (London and Edinburgh: Sands and Company, 1905).

G. Fell, S. J., *The Immortality of the Human Soul,* English translation by Lawrence Villing, O. S. B. (St. Louis: B. Herder, 1908).

A. F. Frumveller, S. J., "Looking at Things Scientifically," *Thought,* I, 676.

J. Gerard, S. J., *Evolutionary Philosophy and Common Sense* (London: Catholic Truth Society, 1909).

J. Gerard, S. J., *Essays on Unnatural History* (London: Catholic Truth Society, 1900).

J. Gerard, S. J., *The Old Riddle and the Newest Answer.*

J. Gerard, S. J., *Modern Free Thought* (London: Sands and Co., 1905).

H. V. Gill, "The Electrical Theory of Matter," *Studies,* March, 1912, p. 9.

H. V. Gill, "The Principle of Relativity," *Studies,* Sept., 1912, p. 524.

J. M. Gillis, *False Prophets* (New York: The Macmillan Co., 1925).

E. Gilson, *The Philosophy of St. Thomas Aquinas,* English translation of *Le Thomisme* by E. Bullough, edited by G. A. Elrington, O. P. (Cambridge: W. Heffer and Sons, 1924).

J. A. Haldi, "A Study of the Empirical and Metaphysical Personality," *The New Scholasticism,* I, 65.

T. Harper, S. J., *The Metaphysics of the Schools* (3 vols., London: Macmillan, 1879).

F. Hettinger, *Natural Religion* (edited by Henry S. Bowden, New York: Fr. Pustet, 1890).

E. R. Hull, S. J., *God, Man and Religion* (Bombay: The Examiner Press, 1914).

W. Humphrey, S. J., *His Divine Majesty,* or, *The Living God* (London: Thomas Baker, 1897).

J. Jorgensen, *Lourdes* (London: Longmans, Green and Co., 1914).

G. H. Joyce, S. J., *Principles of Natural Theology* (London: Longmans, Green and Co., 1924).

G. H. Joyce, S. J., *The Question of Miracles* (London: Mantesa Press, 1914).

R. Kane, S. J., *God or Chaos* (New York: P. J. Kenedy and Sons, 1912).

F. J. Koch, *A Manual of Apologetics,* translated from the revised German edition by A. M. Buchanan. Revised and edited by Charles Bruehl, D. D. (New York: Joseph Wagner, 1915).

G. A. Kreidel, *Notes of a Catholic Biologist* (St. Louis: B. Herder Book Co., 1922).

C. Lattey, S. J. (Editor), *St. Thomas Aquinas*—Papers from the Summer School of Catholic Studies held at Cambridge, August 4-9, 1924 (London: W. Heffer and Sons, Ltd., 1924).

F. P. LeBuffe, S. J., *Human Evolution and Science* (4th ed., revised, New York: The America Press; no date).

Leo XIII, Encyclical, "Aeterni Patris," English translation in *The Great Encyclicals* (New York: Benziger Bros., 1903).

Archbishop A. LeRoy, *The Religion of Primitives,* English translation by Newton Thompson (New York: The Macmillan Company, 1922).

T. J. Livingstone, S. J., "The Fathers and Evolution," *American Ecclesiastical Review,* 1926, p. 231.

T. J. Livingstone, S. J., "The Fathrs and Evolution," *American Ecclesiastical Review,* 1926, p. 373.

T. J. Livingstone, S. J., "The Scholastics and Evolution," *American Ecclesiastical Review,* 1926, p. 473.

M. Maher, S. J., *Psychology* (London: Longmans, Green and Co.)

M. Mahoney, S. J., *Cartesianism* (New York: Fordham University Press, 1925).

J. Maritain, *The Philosophy of Art,* being *"Art et Scholastique,"* by J. Maritain. Translated by the Rev. J. O'Connor, S. T. P., with an Introduction by E. Gill, O. S. D. (Ditchling, Sussex: St Dominic's Press, 1923).

C. C. Martindale, S. J., *Catholic Thought and Thinkers: Introductory* (London: Harding and More, Ltd., 1920).

Cardinal D. Mercier, and other Professors of the Higher Institute of Philosophy, Louvain, *A Manual of Modern Scholastic Philosophy.* English translation by T. L. Parker, M. A., and S. A. Parker, O. S. B., M. A. (2 vols., 3rd English ed., London: Kegan, Paul, Trench and Co., 1923).

L. F. Miller, *A History of Philosophy* (New York: Joseph F. Wagner, 1927).

Canon Moyes, D. D., *The Existence of God* (London: Sands and Company, 1906).

J. F. McCormick, S. J., "Psycho-physical Parallelism," *Proceedings of the Second Annual Meeting of the American Catholic Philosophical Association,* 1926, 51.

V. McNabb, O. P., *The Catholic Church and Philosophy* (New York: The Macmillan Company, 1927).

J. A. McWilliams, S. J., "Peripatetic Matter and Form," *Thought,* I, 237.

T. Nolan, "Aristotle's Idea of the Divinity," *Studies,* 1913, 485.

Msgr. F. Olgiati, D. D., Ph. D., *The Key to the Study of St. Thomas.* English translation by J. S. Zybura (St Louis: B. Herder, 1925).

J. O'Neil, *Cosmology,* Vol. I: The Greeks and the Aristotelian Schoolmen (London: Longmans, Green and Co., 1923).

G. B. O'Toole, *The Case Against Evolution* (New York: The Macmillan Co., 1925).

Msgr. E. A. Pace, "Substitution in Philosophy." *Pro-*

ceedings of the Second Annual Meeting of the American Catholic Philosophical Association, 1926, 19.

J. L. Perrier, *The Revival of Scholastic Philosophy in the Nineteenth Century* (New York: Columbia University Press, 1909).

J. X. Pyne, S. J., *The Mind* (New York: Benziger Brothers, 1926).

A. Rahilly, "Averroism and Scholasticism," *Studies,* Sept. 1913, 301 ; March 1914, 686.

J. Rickaby, S. J., *General Metaphysics* (New York: Benziger Bros., 1890).

J. Rickaby, S. J., *Studies on God and His Creatures* London: Longmans, Green and Company, 1924).

J. Rickaby, S. J., *Scholasticism* (in *Philosophies, Ancient and Modern)* (New York: Dodge Publishing Company, 1908).

M. Ronayne, S. *J., God Known and Knowable* (New York: Benziger Bros., 1888).

A. Rother, S. *J., Being* (St. Louis: B. Herder, 1911).

A. Rother, S. J., *Beauty* (St. Louis: B. Herder, 1917).

J. H. Ryan, *An Introduction to Philosophy* (New York: The Macmillan Company, 1924).

A. M. Schwitalla, "Emergent Evolution," in *The New Scholasticism,* I, 33.

A. B. Sharpe, *The Principles of Christianity* (London and Edinburgh: Sands and Company, 1906).

A. B. Sharpe, *Evil: Its Nature and Cause* (London: Sands and Company, 1906).

F. J. Sheen, *God and Intelligence in Modern Philosophy* (London: Longmans, Green and Co., 1925).

F. J. Sheen, "Contemporary Conceptions of Religion," *Proceedings of the Second Annual Meeting of the American Catholic Philosophical Association,* 1926,66.

F. J. Sheen, "God in Evolution," *Thought,* March 1927, 575.

S. F. Smith, S.J., "Contemporary Miracles," *Month,* Dec. 1914, 561.

St. Thomas Aquinas, *Aquinas Ethicus,* or, *The Moral Teaching of St. Thomas.* A translation of the principal portions of the second part of the "Summa Theologica." With notes—2 vols., by Jos. Rickaby, S. J. (New York: The Catholic Publication Society Co., 1892).

St. Thomas Aquinas, *Of God and His Creatures.* An annotated translation (with some abridgement) by Jos. Rickaby, S. J. (London: Burns and Oates, 1905).

St. Thomas Aquinas, *Summa Contra Gentiles.* Literally translated by Fathers of the English Dominican Province (London: Bums, Oates, and Washbournc, 1923).

S. Thomas Aquinas, *Summa Theologica.* Literally translated by Fathers of the English Dominican Province (London: R. T. Washboume, 1912).

Rt. Rev. W. Turner, S. T. D., *History of Philosophy* Boston: Ginn and Company, 1903).

Rt. Rev. W. Turner, "The Scholastic View of Faith and Reason" in *The New Scholasticism,* I, 24.

L. von Kammerstein, S. J., *The Foundations of Faith:* Part I. *The Existence of God Demonstrated.* English translation Anonymous (London: Bums and Oates, 1897).

L. J. Walker, S. J., *Theories of Knowledge* (2nd ed., London: Longmans, Green and Co., 1924).

T. J. Walshc, *The Principles of Christian Apologetics* (London: Longmans, Green and Co., 1919).

W. Ward, *The Wish to Believe.* A discussion concerning the temper of mind in which a reasonable man should undertake religious inquiry (London: Kegan, Paul, Trench and Co., 1885).

W. G. Ward, *The Philosophy of Theism* (2 vols., London: Kegan Paul, Trench and Co., 1885).

E. Wasmann, S. J., *Modern Biology and the Theory of Evolution.* Translated from the 3rd German edition by A. M. Buchanan, M. A. (St Louis: B. Herder, 1910).

B. C. A. Windle, *Evolution and Christianity* (New York: The Paulist Press, 1925).
B. C. A. Windle, "The Argument from Design," *Catholic World,* June 1914, 289.
B. C. A. Windle, *On Miracles and Some Other Matters* (New York: Benziger Brothers, 1924).
B. C. A. Windle, *The Church and Science* (London: Catholic Truth Society, 1918).
B. C. A. Windle, *Facts and Theories* (London: Catholic Truth Society, 1912).
J. S. Zybura, *Present-day Thinkers and the New Scholasticism* (St. Louis: B. Herder Book Co., 1926).

Encyclopedias

Encyclopedia of Universal Knowledge (New York: The Universal Knowledge Foundation, 1927).
The Catholic Encyclopedia (New York: The Robert Appleton Co., 1907).

Anonymous

"Anti-Miraculous Presuppositions," *Month,* July 1915, 1.
"Recent Literature on the Relations of Soul and Body," *Studies,* March 1912, 146.

CHAPTER I

THE MEANING AND USE OF METAPHYSICS

1. Origin, Purpose and Divisions of Philosophy

How Philosophy Began

Aristotle[1] tells us that Philosophy began in wonder, men wondering first of all at the things that lay close to them and later at the things farther off. Now wonder results from the perception of strangeness and vastness in things, and it is dissipated when the strangeness is made to disappear by the discovery of some way of accounting for the strange occurrences, and the vastness is made less overwhelming when some measure is found for it. This it will always be the endeavor of Philosophy to do.

Man's environment in nature, in the inorganic world and in the world of organic life, is full of questions which his native tendency to try to find some explanation for what awes or perplexes him could not long leave without some attempt at answering. And as he becomes more self-conscious, his own nature with its thoughts and emotions and strivings will present itself to him as a problem to be solved. His attempts at the solution of such questions and problems make up the history of philosophy.

Questions Put to Philosophy

No lapse of time nor any failure to find a satisfying answer to these questionings has ever wholly de-

[1] Metaphysics, i, 2, 982b, 12.

stroyed for man the attractiveness of the urge to speculate

"on God, on nature and on human life."

Almost in spite of himself every man is something of a philosopher, and sooner or later works out for himself or accepts from others some kind of a philosophy of life. He cannot remain entirely indifferent to the meaning of things or to the significance of his own position in the scheme of things. What is the power that is manifested in the majesty of the storm and the beauty and glory of the sunset and in the overpowering extent of the heavens spread out above us? Who is the ruler who orders the movements of the heavenly bodies and brings to our earth the recurrence of seedtime and harvest? What is the authority that speaks within us through the voice of our conscience making us stand in awe of a law that no human legislature has ever enacted? Why am I here for an uncertain period of time, hungry for happiness without limit, and yet finding in the things with which I seek to sate that hunger disappointment and disillusionment? What destiny have I, that makes it worth while going on through difficulty and pain and apparent failure to a success that is certain though unseen? Is there plan and purpose in the scheme of things, or is it all merely a disordered dream from which there is no awakening? Such questions and the answers to them are of unending concern and of perennial interest to the human mind. They touch us too closely ever to appear to be of only trivial importance.

How Philosophy Answers

How does philosophy propose to answer these questions and others of similar import? It undertakes to lead us back to the cause of things, and, through the knowledge of these causes, to show us ourselves and the world we live in and are a part of, as revelations

of a plan and purpose eternally conceived, in the working out of which our good and happiness arc involved. It presents the scheme of things as having a meaning intelligible to our reason and, as far as our reason is capable of understanding it, also satisfying to our aspirations. In gathering up the multiplicity of things into a unity of plan and purpose it makes reality intelligible. We can understand it when we see that it all fits together. And when we are made to see, too, that nothing in it is aimless, we discover that even our highest aspirations are capable of being fulfilled and that our most anxious questionings have an answer.

Philosophy and Religion

It must not, however, be pretended that philosophy can ever provide a satisfying substitute for religion as an account of the meaning of life. Philosophy, after all, even at its best (and it is not always at its best, for its speculations are not always controlled by wisdom), is only our reading and interpretation of the meaning of reality. Our range of vision has its limitations and we do not sec all things or see things on all sides. And even in what we see we may sometimes misinterpret the meaning. Religion on the other hand, if it is true, is God's manifestation to us of His purpose in the things He has made and of His designs for our happiness. The answer religion gives us may and does leave many mysteries unexplored, but in place of complete understanding it gives us a sureness of grasp of essential facts w'hich no ingenuity of speculation could ever provide. Therefore we must look upon our philosophy, not as if it could take the place of religious belief and make such belief unnecessary, but as capable within limits of accounting for reality and explaining it in a way to satisfy the demands of our reason.

Divisions of Philosophy

The most time-honored division of philosophy was into Physics, Metaphysics and Ethics. In this division the first two parts belong to what is known as theoretical or speculative philosophy; the third, Ethics, to practical philosophy. More recently Physics came to be known as Natural Philosophy, Metaphysics as Rational Philosophy, and Ethics as Moral Philosophy. The modern development of the positive sciences, physics, chemistry, biology, etc., has tended to dislodge Physics almost entirely from its place as a philosophical discipline; while the prominence given to questions concerning the problem of knowledge has given rise to a new division, Critical Philosophy or Epistemology. The division of Metaphysics into Ontology, Cosmology, Psychology and Natural or Rational Theology, does not belong to the older Scholasticism, but was introduced by Christian von Wolff (1679-1754).

2. The Meaning and Importance of Metaphysics

Metaphysics

What Aristotle called the "First Philosophy," or sometimes simply "Wisdom," was given the name of Metaphysics by the editor of Aristotle's works, Andronicus of Rhodes (1st Century B. C.). Originally the name may have meant nothing more than the position which the books of the "First Philosophy" occupied in this edition after the books of the Physics. That would be the literal meaning of the word, "metaphysics," "after the physics." But certainly in the course of time the name has come to signify the science that comes after Physics in the sense of going beyond the Physics in its investigation of reality. Physics dealt with nature and natural phenomena and their causes, but considered these things as bound up

with material conditions. Metaphysics means that part of philosophy which goes beyond all material conditions by abstracting from them and inquiring into the nature and causes of reality in general. Suarez defines Metaphysics by setting forth its purpose, which is, he says, to show forth the nature, properties and causes of being as such, and of the divisions of being in as much as these divisions prescind from material conditions. Thus, though some beings are material, we can nevertheless consider what belongs to being as such without considering that any being is material. In so doing we are abstracting from materiality or material conditions. In the same way we can consider what belongs to the nature of a cause without attending to the fact that some causes are material beings. Metaphysics is, therefore, the science of being as such, i. e., of being considered merely as being, regardless of whether it is material or spiritual, finite or infinite. The divisions of being into, finite and infinite, substance and accident, are given place in Metaphysics in as far as they do not necessarily involve material conditions. What Metaphysics finds true of them, it establishes for them without regard to whether they are material or not. That substance exists *per se,* or that the finite is necessarily dependent, will remain true whether the substance be material or not, or whether the finite being be matter or spirit. When therefore the science of Metaphysics is called the science of "immaterial being," we must understand that term in the sense just explained, that it is the science of being abstracted from material conditions. There is another and more positive sense of the word, immaterial, in which it signifies that which is spiritual, or that which is independent of matter in existence and in opera-

♦Disp. Metaphy., disp. i.

tion; but this is not the sense in which the word is to be taken here.

Abstraction in Metaphysics

Metaphysics is said to be the most abstract and the most universal of sciences. All science must have some universality and therefore must be to some extent abstract. If we consider things with all their individual differences, there is no general truth that will apply to them all and no general law or principle that can be derived from them. It is only by leaving out of sight the individual differences and taking what is common to many individuals that we can formulate a universal law or principle. This is what we do when we abstract. We leave out what is peculiar to the individual and take only what is common. To abstract, therefore, is to universalize what is abstracted. Now Metaphysics, having for its object to study being as such, abstracts from all conditions under which reality exists, and considers only the reality itself. Therefore the notions we derive from such consideration of reality will apply to all reality, and consequently the science of Metaphysics is most universal.

The Science of First Principles

Metaphysics is likewise called the science of first principles. A principle is that from which something proceeds; that from which something is derived. We recognize:

a. First principles of reality, i. e., those things from which all reality derives; on which it depends or of which it is made up;
b. First principles of knowledge, i. e., those truths on which all knowledge depends.

Now since Metaphysics deals with being as such, it deals with what is first and fundamental in reality,

and therefore it enables us to derive from the nature of reality the first principles of reality and those first principles of knowledge, or fundamental truths, on which the validity of all our knowledge depends.

Importance of Metaphysics

Some idea of the importance of Metaphysics can be derived from this last consideration. To be of value our knowledge must be real, that is to say, it must correspond with reality. But unless our notions of reality as discovered in Metaphysics were true and certain, our knowledge, founded on these notions, would be false, or at least uncertain. A true system of Metaphysics is a first requirement for a true theory of knowledge.

> "Its neglect cannot but prove disastrous to all sound method of philosophizing, and thus result in vague hypotheses and dark theories instead of certain and genuine science." (Hill: *Philosophy,* p. 150.)
>
> "The solidity of a building depends mainly on the stability of its foundation. . . . Now what the foundation is to the building, that metaphysics is to philosophy. Its notions and principles form the groundwork of knowledge. . . . And not only docs the fate of natural science depend on correct metaphysical tenets; supernatural religion itself is dependent on them. For faith must be reasonable; and how can it be so when first principles arc perverted or denied?" (Rother: *Being,* Introduction, p. vii.)

It might seem that the concepts of Metaphysics are too abstract to have any important bearing on practical thought. Yet what one's whole philosophy will be is determined by the metaphysical concepts which one accepts as a foundation. Thus Spinoza's Pantheism is built up entirely on his idea of substance;

Hegel's philosophy derives from his concept of indeterminate being; and the denial of all unity in the concept of being would easily lead to some form of Agnosticism.

And, too, how we live and act is going to depend on what we think of reality and of our relations to it. For, though it may be true that man is seldom as good, or as bad, as his philosophy, our convictions do certainly influence our actions for good or evil. Metaphysical speculations worked out in the closet of the philosopher do somehow get themselves proclaimed on the housetops, and the ordinary man, who is no thinker, accepts them from his betters and carries them out in practice. "The Eighteenth century philosophers cannot wash their hands of the blood of the French Revolution." (J. G. Hibben: *Introduction to Philosophy.)* And Professor Paulsen tells us that:

> "Philosophy is not a thing that can outlive its usefulness. Nor is it the business of a few barren and abstruse thinkers, but the concern of all ages and all mankind. Indeed we may say, philosophy is not a thing that a person may have or not have at will. In a certain sense every human being that rises above the dull level of animal life has a philosophy; the only question is what kind of a philosophy he has."

And in the words of Leo XIII:

> "False conclusions concerning human and divine things, which originate in the schools of Philosophy, have crept into all the orders of the state, and have been accepted by the common consent of the masses. For since it is in the very nature of man to follow the guide of his reason, if his intellect sins at all, his will soon follows; and thus it happens that looseness of intellectual opinion influences human actions and perverts them. . . . We do not, indeed,

attribute such force and authority to philosophy as to esteem it equal to the task of combating and rooting out all errors." (Encyclical, *Aeterni Patris.)*

Aristotle, however, thought that we ought to insist, not on the usefulness of Metaphysics, but on its intrinsic value as knowledge and as an escape from ignorance.

"One who is perplexed and filled with wonder feels himself to be in ignorance . . . and so if men philosophize in order to escape ignorance, it is evident that they pursue wisdom just for the sake of knowing, not for the sake of any advantage it might bring. This, too, is shown by the course of events. For it was only after practically all things that are necessary for the comfort and convenience of life had been provided that this kind of knowledge began to be sought. Clearly, then, we pursue this knowledge for the sake of no extraneous use to which it may be put, but, just as we call a man free who serves his own and not another's will, so also this science is the only one that is liberal, for it is the only one that exists for its own sake. . . . More necessary, indeed, every other science may be than this one, more excellent there is none." (Aristotle: *Metaphysics,* I. 2. 982 b. 12.)

Formal Object of Metaphysics

The subject matter of a science is called in Scholastic philosophy the *material object of* that science; and the particular aspect under which the science treats its subject matter is called its *formal object.* Thus we have Geology and Geography as sciences that have the earth as their subject matter, or material object; but they are distinct sciences because each treats this subject matter under a different aspect; each has a different formal object. So it comes about that sciences are distinguished one from another, not by their material objects, but by

their formal objects. When, therefore, Aristotle defines Metaphysics as, "The science of being as being," he is indicating for us its material object, being, or reality; and he names its formal object when he tells us that it treats being as being, i. e., not as matter or spirit, not as substance or accident, not as finite or infinite; but simply as being or reality, and therefore according to the principles common to all being or to being as such. Philosophy, then, meaning by philosophy, metaphysical inquiry, has for its field of inquiry all reality, and it sets no limit to this field. It embraces the whole compass of the knowable and it pursues its inquiry to the depths of the inmost nature of things and to the ultimate cause. This is what Aristotle meant by calling it wisdom. This, too, is why the philosopher calls himself a lover of wisdom. Sophos, a wise man, the appellation of the earliest Greek sages, was a somewhat arrogant and pretentious name; and Pythagoras is said to have repudiated it, in the words: "One is wise,—God. Call me not sophos (wise), but philosophos (lover of wisdom)."

Pre-Suppositions of Metaphysics

Scholastic Metaphysics presupposes the doctrine of Realism, i. c., the explanation of the relation of our knowledge to reality, which holds that some things that are known exist independently of their being known by us; and that these objects of knowledge are known to the mind because they are present to the mind through the activity which they exert on the mind. This position on the subject of the objective validity of knowledge is opposed to all forms of Idealism that make the reality of objects consist in their being perceived. On the subject of Universals it adheres to the position of the Moderate Realists. Moderate Realism holds that we have truly universal concepts and that what these concepts represent is something that is to be found in reality outside the mind, though it does not exist outside the mind

as a universal object, but as an individual. These universal concepts, therefore, have validity, i. e., what they represent is something real, and not a mere figment of the mind. There does not, of course, exist in the world of reality any object that is a universal, for reality is made up of individual things. But the mind by its power of abstraction can consider in the individual objects of experience some element which many of these objects have in common, and, disregarding all elements of difference, make this common clement the object of its idea. This common element, the object of the universal concept, exists outside the mind, not, indeed, abstractly as the mind represents it, but concretely along with the individual differences in individual concrete things. This Moderate Realism is opposed on the one hand to the Extreme Realism which held the existence of the universal object outside the mind ; and on the other hand to Nominalism, which taught that our so-called universal concepts were only general names, and to all forms of Conceptualism denying that there is any real object for our universal concepts. Scholastic Metaphysics presupposes, too, that all our knowledge is derived from the experience of sense; that we have no innate ideas; and that there arc no *a priori* elements in knowledge. Thus Scholasticism keeps in touch with reality ; for however abstract its speculations, its abstractions arc all drawn from objects presented by real experience.

3. Scholastic Philosophy

Scholastic Philosophy—Its Sources

Scholastic Philosophy is so called because it is the philosophy developed in the schools and universities of the Middle Ages, reaching its highest development during the Thirteenth Century in the systems of St. Thomas Aquinas and Duns Scotus. It is not the product of any

one mind, but a gradual and progressive growth towards a complete synthesis of thought in harmony with both reason and revelation. It looks to Aristotle as its chief source. Aristotle is constantly referred to by St. Thomas as "The Philosopher." But it was profoundly influenced by the teachings of St. Augustine, who was not an Aristotelian. For an exhaustive study of Scholastic philosophy a knowledge of Latin and Greek is an essential. Aristotle and St. Augustine, however, can be read in English translations, and of St Thomas the following parts are also available in English:

Summa Theologica, translated by the English Dominicans.

Summa Contra Gentiles, translated by the English Dominicans.

Aquinas Ethicus, translated by Joseph Rickaby, S. J., contains such portions of the Second Part of the *Summa Theologica* as treat of ethical subjects.

Of God and His Creatures, an annotated translation with some abridgement, of the *Summa contra Gentiles,* by Joseph Rickaby, S. J.

The student will, of course, understand that references to these sources must be made by citing the divisions and subdivisions of the original works. Thus the *Summa Theologica* is made up of three parts, called the Prima, Secunda and Tertia; and the Secunda is divided into two parts, called respectively the Prima Secundae and Secunda Secundae. Each part is further divided into Questions, and each question into Articles. In each of the articles there is, first, the part which begins, *Videtur quod non,* and which contains the arguments of the opponents. This is followed by the *Respondeo,* which gives the teaching of St. Thomas, and that again by the reply to the arguments of the opponents, beginning in each case with "Ad 1"", 2"®, etc." A full

reference to the Summa Theologica would therefore be given as follows:

Summa Theologica (or S. Th.), I. q. 14, art. 11, resp. This is read: The Statement of the teaching of St. Thomas in the eleventh article of the fourteenth question of the first part of the Summa Theologica.

Summa Theologica, I-II. q. 39, art. 2, ad 3um. This is read: The answer to the third objection in the second article of the thirty-ninth question of the first part of the second part of the Summa Theologica.

Scope of This Treatise

Our treatment of the subject of Scholastic Metaphysics will be divided into two main parts.

In the first part, beginning with the notion of bcing-in-general as the most general aspect of the subject, we shall treat the meaning of the concept of being or reality as such, taking account of the unity of this concept and its analog}' as applied to the highest divisions of being. Then, as we recognize that reality is made up of the possible as well as the actual, we shall have to consider reality in its two conditions of possibility and actuality, and the individual reality in its twofold aspect of essence and existence. From this general treatment of reality as such we pass to the consideration of the transcendental attributes of being: unity, truth and goodness. Thence we proceed to the study of the division of being into substance *(ens per se)* and accident *(ens in alio),* including under accident the categories of quantity, quality, space, time and relation. The first part closes with the treatment of the causes of being with special attention to the constituent causes in the organic world and in the realm of organic and human life.

The second part is taken up with the division of being into self-existent being *(ens a se)* and dependent being

(ens ab alio). The idea of God, the possibility of attaining to knowledge of God, the proofs for the existence of God, the divine essence and attributes, the divine knowledge and will, creation, conservation, concurrence and providence in the natural and supernatural orders, are the topics studied in this second part.

Summary

Man's reason demands some answer to the questions that are forced upon him concerning the meaning and purpose of life; hence Philosophy arises as an attempt to answer the questions by going back to the ultimate causes of things. Philosophy cannot give man the assurance that revealed religion can; but, whereas religion gives only the facts regarding the meaning and purpose of life, Philosophy tries to explain them. Among the divisions of Philosophy, Metaphysics is that part which goes beyond all the material conditions of reality, by abstracting from them, and derives from being-as-such the first principles of reality and knowledge. On the truth of Metaphysics, then, will depend the reliability of all Philosophy. Scholastic Metaphysics is founded on Aristotle as interpreted by the thinkers of the Middle Ages.

Propositions to be Explained and Established

1. The questions put to philosophy to answer are questions of the deepest concern for all men.
2. Philosophy renders reality intelligible by grasping the manifold of experience as some kind of unity.
3. Philosophy cannot displace religion as an explanation of the meaning of life.
4. Metaphysics is the science of being as such.
5. Metaphysics is the most abstract of sciences.
6. Metaphysics is the science of first principles.
7. Metaphysics is of practical as well as of theoretical importance.
8. The formal object of metaphysics is "being as being."

Suggestions for Further Study

Comment on the following:

1. Men of experience know the fact; men of science know the wherefore of the fact.—Aristotle.
2. All men understand as the object of what is called Wisdom, knowledge of ultimate causes and of first principles.—Aristotle.
3. It so happens that a view of anything is called philosophic just in proportion as it is broad and connected with other views, and as it uses principles, not proximate or immediate, but ultimate and all-embracing, to justify itself.—James.

References

Rickaby: *General Metaphysics,* Introduction and Chapter I.
Rother: *Being,* Introduction and 1-3.
Perrier: *Revival of Scholastic Philosophy,* 14-40; 46-49.
Coffey: *Ontology,* 1-31.
Harper: *The Metaphysics of the Schools,* I, 8-44.
Ryan, James H.: *An Introduction to Philosophy,* 1-24.
Mercier: *Manual of Scholastic Philosophy,* I, 1-41 ; 407-422.
DeWulf (Coffey) : *Scholasticism, Old and New,* 98-110; 217-221.
DeWulf: *History of Medieval Philosophy* (new edition), I, 271-324.
St. Thomas: *Summa Contra Gentiles,* Bk. I, cc. 1, 2.
Catholic Encyclopedia: Articles: *Metaphysics; Philosophy.*
McNabb: *The Catholic Church and Philosophy,* 3-25.
Gilson: *The Philosophy of St. Thomas,* 17-34.

Olgiati-Zybura: *The Key to the Study of St. Thomas,* 26-30; 60-72.
DeWulf: *Philosophy and Civilization in the Middle Ages,* 149-178.
DeWulf: *Medieval Philosophy,* 146-151.
Rickaby: *Scholasticism.*
Turner: *History of Philosophy,* 237-244; 318-324; 417-421.

CHAPTER II

THE CONCEPT OF BEING

1. The Meaning of Being-in-general

The Real and the Unreal

Metaphysics has for its province all reality. Now, though everyone knows what reality is, we cannot define it, but can only describe it by contrasting it with its opposite. The real means that which has, or can have, existence outside of the mind. It is opposed to the unreal, which either cannot be thought at all, or can have existence only in our thought. A student of Algebra knows that there is no quantity which, multiplied by itself, will equal —2; yet he thinks of and uses the symbol, $\sqrt{-2}$. The quantity expressed by this symbol may be thought of and, as thought of, can have an ideal existence; but it cannot exist outside of the mind. It is unreal. But should we say that the winged horse, Pegasus, and the Centaurs are equally unreal? They did not exist and doubtless never will, and it would require an alteration in the general scheme of vertebrate anatomy to allow Pegasus and the Centaurs to have six limbs instead of four. But six-limbed beings are found among the invertebrates; why not, therefore, among the vertebrates? So Pegasus and the Centaurs are not unreal as the quantity $\sqrt{-2}$ is. Though they did not exist and never will, there is no reason we can think of why they could not exist. They are possible, and if possible, not entirely unreal.

Again, I can think of a square and of a circle, but; I cannot think of a figure that is at once a square and a

circle. The two concepts are found to be incongruous when you try to unite them in one subject. But though there may be no such thing as a million-sided polygon, yet I can think of one. I find that there is nothing incongruous in the two concepts, "million-sided" and "polygon" when I bring them together in my thought. The million-sided polygon is not unreal in the sense that the square circle is. Though it exists only in the mind, it could exist outside; though it is not actual, it is possible, and therefore has a claim to be considered real. Every thinkable thing is real, whether it exists actually or not, if it has at least the capacity for actual existence, that is, if it is not made up of a union of incompatible concepts.

What Reality Includes

Are we right in asserting that the sum of reality includes the possible as well as the actual? From the very earliest times philosophies have divided on this subject. The Eleatics (so called from the city of Elea in Southern Italy, the home of their founder, Xenophanes, 6th century B. C.) taught that the actual alone is real. Indeed, they went further and maintained that the only reality was the eternal and immutable being. The seeming plurality of beings in the world is, they said, an illusion. There is only the one reality. Nothing ever comes into being or ceases to be. Therefore real change is impossible. (Zeno, the Eleatic, is known chiefly through his sophistical arguments to prove the impossibility of change. See Turner: *History of Philosophy,* p. 50.) On the other hand Heraclitus (of Ephesus, end of 6th century, B. C.) held that being is an illusion and that there is no reality except the process of becoming. All is flux and change. The Eleatic limiting of the real to the actual is found in the systems of the Atomists and the Epicureans, and it persists in the modern philosophic systems that are based on mechanistic explanations of the universe. The

sum of reality is never added to in those systems; but what seems to be the production of a new reality is only a re-arrangement of the old. The claim made by Heraclitus that "becoming" is the only reality, appears again in the philosophy of Bergson.

Aristotle, criticising the views of his predecessors, adopted a middle course between these extremes of thought and extended reality to include both being and becoming, both the actual and the potential. Accepting this teaching of Aristotle, we hold that reality includes everything that does or can exist, whether it exists or not. We admit as real the actual and the possible, and abstracting from the idea of existence, we explain reality as meaning that which has the capacity for existence whether it exists or not. This, then, we shall accept as the meaning of the concept of Being-in-general in Metaphysics. Being means that which is real, and reality, as explained above, is all that has the capacity for existence.

> That it is legitimate to use the word, being, to express a concept that includes the possible as well as the actual, will be evident if we recall that the participial form of the verb can be used to mean the capacity to do what the verb signifies, as well as the act of doing it. Thus, "a reasoning man" may mean one who is engaged in the act of reasoning, or one who is capable of performing such an act. So we can take the word, being, to signify something that, by existing, is doing what the verb, to be, signifies, or something which has merely the capacity to exist. If we take being in the sense of actually existing, it will apply to the existing part of reality only. To make it apply to all reality and express the concept of Being-in-general which Metaphysics uses, we must take it in the sense of having the capacity to exist.

Characteristics of the Concept of Being-in-general

Taken in the sense of "having the capacity to exist," the concept of being is the most universal of concepts. Unlike other universal concepts it applies, not merely to many things, but to all things. It transcends all species and genera and all divisions of reality and applies to all, and is therefore called Transcendental. It is the first of all concepts in the order of thought as well as in the order of time. We know a thing as a being or something before we know it as some definite kind of thing. It is the most indeterminate of notions, yet it is not absolutely indeterminate. It has some meaning and predicates of the subject to which it is applied, the opposition of that subject to nothingness. It is, therefore, not the absolute indeterminatencss which Hegel thought of when he enunciated his formula: Being is equal to nothing. If it meant nothing, it would not be a concept at all.

The concept of being is also the most abstract of all concepts, arrived at by omitting all the differences by which one being is distinguished from another. Not that we exclude these differences from the compass of being, for they, also, are realities, but because we do not think of any object as affected by these differences when we predicate our concept of being of it. Thus when I say: God is a being; my thought is a being, I say of God and of my thought all that each is; but I express their reality indefinitely without taking into account what distinguishes one from the other.

Indeterminate Being and Infinite Being

It is important to observe how the indeterminate being of Metaphysics (being-in-general; *ens ut sic* differs from the Infinite Being *(ens a se)*. Indeterminate being has the greatest possible extension; i. e., it can be predicated of everything that has any reality.

But it has the least possible intention or comprehension; it means the least that could be meant by any concept, and makes the least possible predication. Infinite Being, on the other hand, has the least possible extension, since it can be applied to one being only, for there can be only one Infinite Being. But it has the greatest possible comprehension, for it includes within its meaning all the fulness and perfection of being.

Nothing

The opposite of being is nothing (not-being). In opposition to being in the participial sense, nothing means not existing; but as opposed to the substantive sense of being, nothing means having no capacity for existence, having no reality. This latter meaning is the meaning of absolute nothingness.

First Principles Derived from Notion of Being

Certain first principles of being are derived from the consideration of the notion of being. Comparing "being" with itself we find that it is identical with itself, and hence we derive the Principle of Identity:

"Whatever is is," or, "If a being is, it is."

Comparing "being" and "nothing" we find that they are directly opposed. What one affirms the other denies; one removes from a subject what the other predicates of it. They are therefore mutually exclusive and contradictory and hence cannot be predicated of the same subject at the same time. From this comparison we derive the Principle of Contradiction, as a self-evident principle. It may be formulated thus:

"A thing cannot be and not be at the same time."

Aristotle blamed Heraclitus for denying the Principle of Contradiction. The charge was based on Heraclitus' doctrine of opposites; that all things

are constantly passing into their opposites. But this doctrine need not be understood to mean the identity of opposites. Though it holds that things become their opposites, it does not hold that a thing is itself and its opposite at the same time.

Hegel in his Logic claimed that Aristotle gave only part of the truth in his statement of the Principle of Contradiction. Although every being is identical with itself and differentiated from everything else, yet being is also related to other being and, as related, is identical with that other. Hence being is at once itself and other than itself; both being and nothing. But Hegel's claim that a being becomes other than itself by its relation to another is inadmissible.

Likewise, since "being" and "nothing" are directly opposed and contradictory, there is no alternative between them. One or the other must always be true of everything. Hence we have the Principle of the Excluded Middle:

"A thing must either be or not be."
or,
"Everything either is or is not."

2. The Unity of the Concept of Being

Logical Unity of Being

The concept which the mind forms may be regarded as an activity of mind and hence as a modification of mind. So regarded, it is subjective and is called the subjective concept. With the concept in this sense we are not concerned in Metaphysics. But a concept also represents an object and, thought of in this meaning, as representative of the object, it is called the objective concept. It is in this sense that the concept is treated in Metaphysics. It was said above that the

concept of being-in-general was most universal. Now any universal concept must have some unity; for the universal means, one thing common to many. Has the concept of being any unity? and, if so, is this unity univocal, or merely the unity of analogy? These questions must be answered in this and the following sections.

The question, then, of the unity of concept of being seeks to discover whether there is in the mind some one notion which is always present when we have the idea of being. No matter what the subject is which we think of as a being, is there some one thing that we think of when we predicate being of that subject? If, as was said above, being-in-general means merely the capacity for existence, opposition to nothingness, then there is but one notion represented by the concept of being and the concept has unity. The only thing that could interfere with this unity in the concept would be explicitly including the notion of the modes or divisions of being in the concept. But these, as was said above, are not explicitly included, for the concept of being is formed by abstracting from all the modes and divisions of being.

It is important to emphasize this unity of our concept of being-in-general, for if there were not unity in this concept, our ideas which are formed from finite things would not mean anything when we apply them to the Infinite. The consequence would be Agnosticism regarding the nature of the Infinite.

This unity of being is logical since it is a unity in thought only. It is not a real unity of being, as the Eleatics taught, or as Pantheism, ancient or modern, has held. The multiplicity of things which our experience finds in the universe is not merely apparent; it is not an illusion. It is a real multiplicity. Reality is made up of a multitude of individual things out of

which the mind makes up unities by its power of abstraction.

But while we must avoid the error of identifying the many with the one in reality, we must also guard against the mistake of splitting up reality into a multiplicity of entirely discrete and independent units. The universe has a unity which is a unity of system and which is brought about by the manifold interrelations of the units of which it is composed and the dependence of the universe as a whole on the Creator. Each unit has indeed its own reality, distinct from the reality of other units, yet it has this reality dependently on the cause of the universe and dependently, too, on other units in the universe, so that it can neither exist nor be known to us independently of other beings with which it stands in relation. Thus each human being is a distinct individual not to be confused or identified with any other individual in the universe. Yet he is also part of a race, holding a definite place in a certain line of descent, and he would not be what he is without these very definite relations to other individuals in the race.

3. The Analogy of Being

Univocal and Analogous Concepts

Where there is full and perfect unity in a concept, the concept is said to be univocal. A univocal concept, therefore, is one that is predicated of many in entirely the same sense. Thus the concept of "living being" is univocal as applied to plant and animal. It has the same meaning in both cases, and is but one concept applied to both. But when the poet speaks of "smiling Spring," he is applying to Spring a concept which properly applies only to a person in a happy mood. He is making use of an analogy. The concept, smiling, does not mean entirely the same

thing when applied to a person as it does when applied to Spring. And yet there is some, though imperfect, unity in both uses. Such imperfect unity is sufficient for analogy. Now in regard to the concept of being, Scholastic Metaphysics asks the question: Is it applied univocally to the first divisions of being? Does it mean entirely the same thing when applied to God and creature, to substance and accident? When we say a creature is a being, does our concept of being mean entirely the same to us as when we say, God is a being?

The answer to this question can perhaps best be found by comparing the manner in which a univocal concept is applied to the individuals that come under its extension, with the way in which the concept of being is applied to the divisions of being. Any universal concept will represent some one thing common to many, but the concept of being-in-general represents some one thing common to all. It goes beyond the extension of all universals, and this is the reason why it is transcendental. Now the extension of the universal embraces some division of reality and represents what the individuals that make up that division of reality have in common, but not that in which those individuals differ. Thus the universal concept, "animal," will represent what is common to all beings of a certain kind, that is, to all possessing some form of sensitive life. But though some beings that are animals, are also rational, the idea of rationality is not at all included in the idea of "animal." A being may be an animal without being rational, or it may be rational without being an animal. There is then what is called a perfect precision between the two concepts. One does not include or imply the other. When therefore I think of a horse as an animal and a man as an animal, no more is stated or implied in one case than in the other. I am thinking only of the possession of sensitive life by both horse and man. My thought

does not, of course, express all that man is as distinct from horse. If I wish to do so, I must add to my concept of animal another and different concept, that of rationality, which is not included or implied in the concept of animal. By this addition I represent distinctly what man is, but I now have a concept of narrower extension, the concept of rational animal. This manner of narrowing the extension of a universal concept so as to make the concept express distinctly some part only of the extension is called the method of composition. It is the method that must always be used when limiting the extension of univocal concepts.

The Concept of Being Is Analogous

But now we find that we cannot use this method when we seek to limit the extension of the concept of being-in-general to some one of the divisions of being, to infinite or finite being, to substance or accident. For we cannot find any concept to add between which and the concept of being there is a perfect precision, as there is between "animal" and "rational" above. For though the concept of being-in-general does not expressly include the concept of finite or infinite, and though a thing may be a being without being finite or without being infinite, yet it cannot be finite or infinite without being "being." When we seek the reason for this difference we find that it is because the differences between the divisions of being are themselves being. To make the concept of being express distinctly what God, the Infinite being, is, I must add to the concept of "being" the notion of being "of Himself." To make it express distinctly what the creature is, I must add to it the notion of being "from another," i. e., of depending on another. Now these differences, "of Himself," and "from another" are themselves "being," and consequently in adding them I am not adding anything distinct from

being. This was not true of the divisions of "animal." Rationality is not animal, neither is the absence of it. Consequently I cannot add any new concept not already contained under the extension of being, when I set out to limit the extension of "being" to one of its divisions. When I think of God as a being my thought expresses indeterminately all that God is, just as the thought of the creature as being expresses all that the creature is. Therefore "being" as applied to God and creature could not be used in entirely the same sense; for, while it is true that God and creature agree in the fact that both are beings, yet it is in their very being that they differ. The concept was not false when both were conceived as beings; yet the concept cannot represent entirely the same thing in regard to both. It must mean that God is being in the full sense and that creature is being only in a dependent and participated sense. This is what is meant by saying that the concept of being is analogous when applied to the divisions of being, for it is referred to these divisions in the sense of reality, but also in the sense of different reality.

> It will follow, therefore, that the concepts which we derive from our experience of finite things and apply to God will give us knowledge of God that is analogous. Such knowledge, though true as far as it goes, will never represent God as He is in Himself, but only as He can become known to us through such analogy of His Being as creatures provide.

In the same way, when I think of substance as being and accident as being, I am using the concept of being analogously. For substance is being that exists in itself, without the need of any subject to exist in; while accident is being that exists in another, and has its reality in that other and with dependence on that other. The person who thinks and his thought

are both beings; but only the person is being in the full sense. His thought is being only analogously, because it is being only dependently. They differ, not through any reality distinct from being, but rather in their very being; for the differences, "in itself" and "in another," are themselves "being."

Being Is Not a Genus—Its First Divisions

Therefore the concept of being-in-general is not a generic concept and bcing-in-general is not a genus. All genera and species come under its extension. The first and highest divisions of being-in-general are:

Being-in-general (cns ut sic)

a se	ab alio	per sc	in alio
God	creature	substance	accident

4. Kinds of Being

In real being it is necessary to recognize the following kinds:

(a) Actual and Potential Being

Actual being is being that has actual existence in the real order; potential being is being that, while not possessing actual existence in the real order, has the capacity for existence. The treatment of Actual and Potential is taken up in Chapter IV.

(b) Infinite Being and Finite Being

This division is based on the possession of perfection by a being.

Perfection means the reality which a being possesses. It may be the entire reality of the being, or a substantial part of the reality, or some accidental

modification of the reality. In the latter case it is called an accidental perfection.

If the perfection of a being is without limit the being is infinite. An infinite being is therefore one that possesses all perfection. Infinite being is entirely positive; there is no negation in it, though our term for such perfection is a negative term. The negative form of the term, however, merely points to the way in which our idea of the infinite is formed.

When a being possesses perfection with certain limits, it it finite being. A limit is a denial of further perfection in a being. The finite being is positive in as far as its perfection extends, but has a negative element in as much as it implies the denial of further perfection.

Finite perfection can be known directly in itself, for the direct objects of our knowledge are beings containing finite perfection. Therefore we form ideas of finite perfection which are entirely positive and might even be adequate. Finite perfection is not known, as some followers of Descartes contended, by the denial of the infinite. That would imply that we had a primitive and direct knowledge of the infinite, which is not the case. Infinite perfection, on the other hand, cannot be known by the human mind directly, for the Infinite Being is not the direct object of our natural knowledge. Still we can form an idea of the infinite. Our experience of finite things gives us the idea of being or perfection; comparison of the objects of such experience shows us the possession by some of perfection that is not in others, and therefore the idea of perfection with a limit. From these elements, by conceiving perfection and denying limitations, we have our idea of the infinite. This idea is in consequence partly negative, as the term itself would lead us to suspect. But though negative, it represents something that is wholly positive. As far as it goes

it is a true idea, and it is a clear idea because it represents only infinite perfection and distinguishes this from everything else. Still it can never be an adequate idea of the infinite. If the idea of the infinite were adequate and positive, Descartes' contention that only God could implant such an idea in our minds would be true. We could get an adequate and positive idea of the infinite only through some direct experience of an Infinite Being. But we are too well aware of the inadequacy of our idea to find any need of referring it to any such supposed experience.

The infinite cannot be made up of parts and it must not be conceived as growing up out of the addition of finite to finite. There could never be an end to such addition, and at best it could lead to the concept of indefinite being, i. e., being without definitely assigned limits; but never to the concept of the infinite.

> Can we know that we have the right to divide all being into finite and infinite? Can we be sure that the concept of Infinite Being docs not contain in itself a contradiction? Rickaby says (op. cit., p. 191) that we cannot know this by the mere inspection of the terms, "unlimited," and "being." And yet it seems that we ought to be able to do so. For "unlimited" can mean merely being, more being, being without limit, and we certainly can assure ourselves that there is no contradiction between being and more being or all being. If existence is the actuality of being, then it would seem to belong more properly to the fulness of being, which the infinite is, than to the being in which we find it verified in our experience—being with limits. But whether or not we arc able to do this, it still remains possible to prove the necessity of admitting the existence of an infinite being, as is done by the proofs for the existence

of God, and so justify our division of being into finite and infinite.

The infinite being must exist necessarily, immutably, and eternally. These requirements follow from the fact that its perfection must be without limit. It would be a limitation on the perfection of the infinite if it was possible for it not to exist, if it could change, if its duration was subject to limits or change. The finite being exists contingently, subject to change, and in time. This contrast between finite and infinite being gives us the foundation for a further division of all being into: necessary and contingent; immutable and mutable; eternal and temporal.*

(c) Necessary Being and Contingent Being

Necessary being is that which so exists that it would be impossible for it not to exist; it requires to exist, or exists by the need of its very nature. Its existence is implied in its essence. Contingent being is that which so exists that it would be possible for it not to exist. It does not require to exist, nor exist by any necessity of its nature, but in virtue of the influence of some other being on it. Existence is not implied in its essence, but is something that accrues to it. Contingent being is therefore said to be indifferent to existence or non-existence. When, however, a contingent being exists, its existence may be said to be necessary, but only hypothetically so, i. e., if it exists, it cannot be non-existent at the same time. This is the kind of necessity that belongs to a fact. Absolute necessity of existence belongs only to the Infinite.

* We are concerned here only with the significance of these concepts. The reasoning by which the existence of a necessary, immutable, and eternal being is established is given in Part II, under the arguments for the existence of God.

(d) Immutable and Mutable Being

The immutable being is that which is not subject to change, which cannot change. It is all actuality of being without any potentiality. It possesses all of its reality at once, and cannot become other than it is. The mutable being is subject to change. It possesses some actuality along with potentiality. It can become something other than it is.

(e) Eternal Being and Temporal Being♦

Thinking of eternal being is simply thinking of the infinite, necessary and immutable being with reference to its duration. To be eternal the duration of a being must be infinite, necessary and immutable. It must be all at once, not successive. Temporal being is contingent, finite and mutable. Its duration is not all at once, but part by part in succession.

(f) Absolute and Relative Being

Another division of being is into Absolute and Relative. Absolute means that which is in itself self-sufficient and independent of everything else and is therefore capable of being without reference to anything else. Relative means that which has some reference to something else and cannot have being independently of that to which it is referred. In the strictest sense of the word only God is absolute being, for only God is entirely self-sufficient and independent, and all finite beings are relative. But in a less strict sense substance is thought of as absolute being compared with accident, which is relative because it has its being only with dependence on substance. There is a sense, too, in which all being can be thought of as relative, for all being, in as far as it is known, bears a relation to the knowing mind. In much modern philosophy the Absolute is used to mean the

♦For the meaning of eternity and time, see Chapter VII.

ultimate ground or reason for all reality. It takes the place which the idea of God occupies in theistic philosophy, but does not mean a personal Being, as the idea of God does.

Ideal Being and Logical Being

Everything known, by the very fact that it is known, exists in the mind of the knower and has therefore a mental or ideal existence besides the real existence which it may have in the world outside the mind. But there are some objects of thought that can have no other than a mental existence, and to these is given the name of logical being *(ens rationis).* Such objects of thought as "nothingness," "privation," and the object of the universal idea are of this kind. They are thought of as beings, for if we think of them at all, we cannot think of them otherwise; but they cannot have existence in the real order. Nothingness cannot exist, nor can privation, though a real being can be affected by a privation, as when a man is blind or deaf. The object of a universal concept cannot exist as such in the real world, that is, it cannot exist as a universal thing, as one thing that is at the same time common to many things. Still, the universal is founded on reality, for, while no real thing can be one and many at the same time, nevertheless the reality of any one being can be thought of as multiplied and repeated in many things, and the fact that things are found to be alike in many respects shows that this is not a mere unwarranted fiction of the mind. (The question of the relation of the object of the universal concept to reality was the basis of the famous Question of Universals. See: Turner's *History of Philosophy,* pp. 265-268.)

Summary

A thing is unreal if it cannot have existence, and it cannot have existence if its essence must be conceived in concepts which are mutually contradictory. The real means whatever has or can have existence and not merely what actually exists, as the Eleatics said. This is, then, what we mean by the notion of being-in-general: that which can have existence, whether it actually has existence or not. Hence the concept of being-in-general is the most universal and abstract of concepts and, unlike the concept of the Infinite Being, it has the greatest possible extension with the least possible comprehension. From this concept of being are derived as first principles: the principle of identity, the principle of contradiction and the principle of the excluded middle. The concept of bcing-in-general has unity, but it is not the perfect unity of an univocal concept, but the less perfect unity of analogy. Being is divided into: actual and potential; infinite and finite; necessary and contingent; eternal and temporal; absolute and relative. Logical being *(ens rationis)* can have existence only in the mind as an object of thought.

Propositions to be Explained and Established

1. A thing is not entirely unreal if it has at least the capability of existing.
2. The concept of being-in-general is the most universal and most abstract of concepts.
3. Indeterminate being must be distinguished from Infinite Being.
4. The concept of being is one.
5. The unity of being is logical, not real.
6. The unity of being is the unity of analogy.
7. We can form the concept of Infinite being, though Infinite being is never the direct object of our natural knowledge.

Suggestions for Further Study

1. The Eleatics and Heraclitus on the subject of Being. Cf. Any standard History of Philosophy.

2. The Differences between St. Thomas and Scotus on the Subject of the Analogy of Being. Cf. Rickaby: *General Metaphysics,* 35-46.

3. Hegel's Identification of Being with Nothing. Cf. Rickaby: *General Metaphysics,* 53-55.

References

On the Meaning of Being

Rickaby: *General Metaphysics,* 11-36.
Rother: *Being,* 1-12.
Coffey: *Ontology,* 32-50.
Mercier: *A Manual of Modern Scholastic Philosophy,* I, 413-420.
Olgiati - Zybura: *Key to the Study of St. Thomas,* 23-30; 439-442.

On the Unity of Being

Rother: *Being,* 13-48.

On First Principles Derived from Being

Rickaby: *General Metaphysics,* 46-51.
DeWulf: *Medieval Philosophy,* 26-31.

On the Analogy of the Concept of Being

Rickaby: *General Metaphysics,* 36-46.
Rother: *Being,* 49-123.
Coffey: *Ontology,* 36-39.

CHAPTER III

ESSENCE AND EXISTENCE

1. The Meaning of Essence and Existence

Meaning of Essence

Essence *(essentia)* is that by which a thing is what it is. St. Thomas defined it as "that by which a thing is constituted in its proper genus or species and which we signify by the definition indicating what a thing is." *(De Ente et Essentia,* c. i.) The essence of a thing answers the question: "What is it?" asked of any object. Hence it was also called the quiddity *(quidditas*—whatness) of a thing.

Independently altogether of what we can know or not know about the internal constitution of things, these things, to be real at all, must have their own reality, which makes them the things they are. Now essence means no more than this. It is simply the reality of the thing considered as constituting that thing. Therefore the proposition, Everything has its own essence, would seem to be self-evident, since it means no more than that if a thing is what it is, it must have in it that which makes it what it is, and that is its essence.

Individual and Specific Essence

It is the whole reality of a thing that makes it the thing it is. Hence the individual essence of anything means the whole reality of the individual. If any of this reality is removed or changed, the individual does not remain exactly the same individual as before. In any scientific knowledge, however, and especially in

Metaphysics, it is not the individual essence that is of interest, but rather what is called the specific essence. Now the specific essence is that which makes the being the kind of being it is. The specific essence is recognized by discovering those elements in the reality of an object that are required to make the individual belong to a certain kind or species. Thus to be a horse a being must be animal and quadruped and certain other things besides, but it makes no difference as far as being a horse is concerned whether it is white or black or some other color. Consequently to be an animal and a quadruped is part of the specific essence of the horse; but to be white or black, though part of the reality of the animal, is no part of the specific essence. The particular color of the animal or any other elements in its reality not required to constitute it in the species, horse, will be said to be not essential, meaning by that use of the word that they do not belong to the specific essence. The specific essence of anything will, then, be designated by pointing out the parts that are essential in the sense explained above. If the parts we designate are real (physical) parts, the essence so expressed is called the physical essence; if the parts are not real but metaphysical (genus and specific difference), the essence so expressed is called the metaphysical essence. Of course, physical and metaphysical essence are not two essences, but one and the same essence differently conceived and expressed. The physical essence of man would be expressed by designating his essential physical parts: Man is a being composed of an animal body and a rational soul; the metaphysical essence would be expressed by enumerating the metaphysical parts, the genus and specific difference: Man is a rational animal. Observe that the statement of the metaphysical essence of a being is the same as the essential definition of that being.

Properties of Essences

Essences are said to be unchangeable, necessary and eternal. By the unchangeableness of essence is meant that the essence of a thing is not sometimes one thing and sometimes another, but always the same. It may be the essence of a changeable thing and the thing itself may change and become something else, but the requirements of the essence are unalterable. The essence of man is to be rational and animal. No matter how much the concrete individual being may change, the requirements of the essence of man cannot change. Either a being is a rational animal or it is not a man.

The necessity of essences follows from their unchangeableness. If they cannot change, they must be what they are, and a thing must have the essence that belongs to it in order to be the thing it is.

By saying that essences are eternal we mean that what is essential to a thing now, always was and always will be essential. The constitution of essence is altogether independent of the element of time.

The Meaning of Existence

"Existence," says St. Thomas, "means a kind of act, for a thing is not said to exist from the fact that it is in potency, but from the fact that it is in act." *Contra Gentiles,* I, c. XXII, 4. It has also been called the actuality of essence. It corresponds to the concept of being, taken in the participial sense of the word. It may be said to be "that by which a thing is placed outside its causes, and has its own actual presence in the universe," if we remember that such an explanation could apply only to beings that are caused and will not hold good for the existence of the uncaused being, God. So simple a notion as existence does not admit of definition in the strict sense, or even of explanation in terms that are simpler than itself. We can, however, think of it as that on account of which

a being has its place in the order of actual things as contrasted with the order of possible things.

2. The Controversy on Essence and Existence

A Real Distinction or a Distinction of Reason

A controversy of long standing exists among Scholastic philosophers regarding the nature of the distinction that must be admitted between essence and existence. Whenever things are different one from the other independently of any separation which the mind makes between them, a real distinction is said to exist. Where the difference is of the mind's own making, even though there may be a foundation in reality for making it, the distinction is called mental. Which of these distinctions must be said to exist between essence and existence? Are essence and existence two different realities independently of our thinking, and is the distinction therefore real, or is it rather a distinction which the mind makes by separating two aspects of one reality?

Both parties to the dispute are agreed that the concepts of essence and existence are distinct, as well as that there is a real distinction between abstract or merely possible essence and its actual existence. They are further agreed that in God there can be no real distinction between essence and existence, for God as the self-existent being exists by his very essence. The whole controversy hinges, therefore, on the kind of distinction to be recognized in actually existing finite things. The Dominican followers of St. Thomas have as a rule maintained the real distinction. Scotus denied the real distinction, and Suarez and Vasquez are the leaders of the opinion which holds the distinction to be mental. The texts quoted from St. Thomas in favor of the real distinction are not so conclusive

for that side as not to admit an interpretation compatible with the mental distinction.

Arguments in Favor of the Real Distinction

The case for the real distinction is given by Cardinal Mercier *(Manual,* I, 434-439) who bases his stand on the following arguments:

1. "Essence—what a thing is—is the sum of the notes expressed in the definition of a thing. Existence is existence, we cannot translate it by any other equivalent idea. Now, on the other hand, never does a definition of any object, however perfect, comprise in it the existence of the object defined. Represent anything you like in nature, not only with the notes characteristic of its species but also with its individual features; attribute to it all the reality that is requisite to give an adequate answer to the question, 'What is it?' and the thing will be destitute of existence, it will still be something capable of existing, not something actually so. On the other hand, the existence of any actual thing, though it also extends over the whole object, is one and indivisible, it is existence and only existence. Hence essence does not include existence, nor existence essence; between the two there is an adequate diversity, corresponding as they do, according to the remark of St. Thomas, to two different questions—existence to the question, 'An est?' and essence to the question, 'Quid est?' In fine, therefore, the being which is at once the object of two adequately distinct concepts cannot be simple but must be a compound being; or, in other words, essence and existence are two component elements of an existent being."

2. "Beings that fall under our experience are obviously finite; moreover they arc many. But

a being whose essence is identical with its existence is necessarily infinite and unique. Therefore the essences of things to which our experience extends are really distinct from their existence."

3. The third argument is drawn from the fact that Scholastic philosophy recognizes the existence of composite beings that are also real units. Such is a corporeal being made up of matter and form. Now if every reality had its existence, and accordingly the matter and form of a body each had its own existence, they could not make up a body substantially one. Therefore their unity must be accounted for by one act of existence, which is not the existence of each part, but of the whole. Therefore the existence of the body is distinct from the essence which is the matter and form.

Criticism of the Arguments for the Real Distinction

In regard to the value of these arguments it may be said that the first shows very clearly the distinction of the concepts of essence and existence and the real distinction of abstract or possible essence from actual existence. But it docs not show that the actually existing essence is different and really distinct from its own existence.

As for the second argument, the identification of essence and existence in finite things docs not make the finite things infinite, and consequently neither does it make them unique. (The only reason for the uniqueness of a being is its infinity.) For, if it is borne in mind that the essence of the finite thing is dependent and contingent, the existence identified with this essence will also be dependent and contingent.

In regard to the third argument, if we understand the Scholastic theory of matter and form, we should attribute existence only to complete

substances, and not to incomplete substances such as the components, matter and form. Even in denying the real distinction of essence and existence we hold to but one existence in the composite being, this existence being the existence, not of the component parts, but of the whole.

Finally it must be said that the point in dispute has not the serious significance the upholders of the real distinction claim for it. No issue of vital importance in Scholastic Metaphysics is staked on the solution. Since this is so, and since, moreover, the arguments for the real distinction are not convincing, it seems more in accordance with the spirit of Scholastic Metaphysics not to admit more than the needs of the situation require. Beings are not to be multiplied without necessity. If the real distinction is not needed, as it seems not to be, we can be satisfied with the distinction of reason.

3. The Knowledge of Essence

The Denial of the Possibility of Knowing Essences

Can we know anything of the essences of things, or is our knowledge of things limited to the externals and non-essentials in things? Of course those who admit only sensation as valid knowledge will not allow the possibility of acquiring a knowledge of essence, for the sensation can give us no knowledge of essence as distinct from what is non-essential in a being. Hence it is not surprising to find John Locke leading the attack on the doctrine of essence. His attack was continued by Hume and the later sceptics and Nominalists. Locke, it is true, did not deny that there was a real essence in things; but he maintained that we do not know the real essence, but only the nominal

essence, which is "the abstract idea which the general name stands for" (*Essay Concerning Human Understanding,* III, 3). But if we can have no knowldge of real essence, on what grounds can we assert its existence? Locke appears not always to have recognized the logical consequences of his doctrines, but those who followed his lead pushed his denial farther and refused to admit the existence of real essence because of his claim that we have no knowledge of it.

Essence Attained in the Concrete Experience

Something of the difficulty in this matter arises, no doubt, from making a mystery of essence, as Locke does when he speaks of substance as "the unknown substrate of accidents." Making essence a hidden thing to start with is creating a difficulty for ourselves. Writers often cause confusion by statements that would lead one to think that we know the qualities of things apart from the things in which these qualities are presumed to exist. But as a matter of fact our sense experience is with concrete things. Qualities apart from things are abstractions and not the data of our sense experience. What our experience gives us is the thing qualified. It is true enough that it is on account of certain qualities possessed that these things make an impression on our senses and so come to be known by us, but that is a different matter from thinking that the qualities alone are known by us. From what our sensations tell us of the reality outside of our minds we have no more cause to say that the essence is unknown than to say that the sensible qualities are unknown. Sense perception knows no way of distinguishing between essence and non-essentials in an experience. It simply presents to the mind the concrete fact. It is the intellect that must make the separation between what is essential and what is not.

Knowledge of Essence as Claimed by Scholastic Philosophy

Scholastic philosophy does not make any exaggerated claims in regard to the knowledge of essence. It does not claim to know the essence of all things; or to know the essence of anything perfectly; or to know the essence of anything intuitively. It does claim to have some knowledge of what is essential to some things, and to have this knowledge, not by directly perceiving the essence of anything, but by reasoning from the facts of its concrete experiences. The real essence manifests itself in the properties of things, i. e., in those characteristic modifications or operations of a class of things which are always to be found in things of that class and can never be absent without changing the species of the things. These properties can be learned by the observation of many individuals, and can be compared with other qualities which arc not characteristic. The chemist has his characteristic reactions by which he identifies his elements. So the metaphysician looks to the properties of things to enable him to identify and classify the objects of his experience according to their kinds. Both chemist and metaphysician arc merely following the time-honored axiom: *Operado sequitur esse:* The operation of a thing follows the mode of being of the thing. They are seeking to discover what is characteristic and essential to the being of the thing from observing what is characteristic in the operation of the thing.

Proof of the Knowability of Essence

The outline of the proof for the assertion that we can have some knowledge of essence may be expressed briefly as follows:

We can know something of the essence of things if we can discover the characteristic manner of operation in things;

But experience shows that we can discover characteristic operations in things;

Therefore we can know something of the essences of things.

The proof of the major in this argument is that there is no assignable reason why a thing should act in a certain determined way always, unless the essence of the thing demanded this determined manner of operation.

Knowledge of Essence Not Exhaustive

No claim is made that such knowledge is in any sense exhaustive of the essence of the things known. Often it may tell us no more of the essence of the thing in question than that it is the kind of thing that must act in this determined way. But such as it is, it does point to something in the thing that makes the thing the kind of thing it is; and this is leading to some knowledge of the essence.

Essence, Substance and Nature

> The same reality which we have called the essence of a thing will be called substance when it is considered as a reality existing by itself *(per se)*. When it is thought of as the source of the activities of the being, it is called the nature.

Summary

Essence is that which makes a thing what it is; specific essence is that which makes a thing the kind of thing it is. The specific essence of anything will be defined by designating the essential specific parts. Essences are said to be unchangeable, necessary and eternal. Existence is the actuality of essence. Thomists hold the real distinction between essence and existence to be the doctrine of St. Thomas; while Scotus and Suarez are satisfied with a distinction that is less than real. Contrary to the claim of Locke it is possible to know, not only the *nominal* essence, but

also the *real* essence, though we know the real essence only inadequately. Essence, substance and nature are the same reality under different aspects.

Propositions to be Explained and Established

1. The proposition, "Everything has its own essence," is self-evident.
2. There is a sense in which it is true that essences are unchangeable, necessary and eternal.
3. Essence must be distinguished from existence, but this distinction need not be a real distinction.
4. Our concrete experience attains, not only to the qualities of things, but also to the essence.
5. We can know the essence of things by abstraction.

Suggestions for Further Study

1. The Reality of Possible Essences. Cf. Coffey: *Ontology,* 84-89.
2. Does the necessity and eternity of essences prove the existence of an eternal and necessary intelligence? Cf. Coffey: *Ontology,* 89-95.

References

On the Meaning of Essence and Existence

Rickaby: *General Metaphysics,* 59-62.
Coffey: *Ontology,* 74-89.
Mercier: *Manual,* I, 420-422.
O'Neill: *Cosmology,* I, pp. 159-162.

On the Distinction Between Essence and Existence

Rickaby: *General Metaphysics,* 84-85.
Coffey: *Ontology,* 101-113.
Mercier: *Manual,* I, 434-439.
Catholic Encyclopedia, V, 543, sq.

On Knowledge of Essence

Rickaby: *General Metaphysics,* 62-84.

CHAPTER IV

POSSIBILITY AND ACTUALITY

1. The Meaning and Kinds of Possibility

The Nature of Possibility

Since reality is not limited to actually existing being, we must fill out our study of it by considering something of the nature of possibility. Possibility means the capability of a non-existing being to exist. Adequate or complete possibility exists when a being is both intrinsically and extrinsically possible. Intrinsic possibility, which is also called absolute and metaphysical possibility, means the mere non-repugnance of an essence to existence. Repugnance to existence occurs in the case of not-being only. If therefore an essence is made up of incompatible elements, it is not-being, and incapable of existence. But as long as the essence does not involve any incompatible elements, it is being and intrinsically possible. Extrinsic possibility, which is also called relative possibility, means that the essence in question finds a cause outside of itself that is able to give it existence.

Whatever is intrinsically possible is also extrinsically possible (and therefore adequately possible) relatively to an Omnipotent Being. This is implied in the very notion of an Omnipotent Being, that nothing which is possible should be beyond its power to accomplish. But relatively to finite beings many things which are intrinsically possible may be extrinsically impossible because of the deficiency of power on the part of the finite being.

Impossibility

Corresponding to the above division of possibility we have the intrinsic (absolute, metaphysical) impossibility, and the extrinsic (relative) impossibility. Intrinsic impossibility consists in the repugnance to existence. It occurs where there is incompatibility in the elements that go to make up an essence. Extrinsic impossibility means the absence of a cause capable of giving existence to a being. It can occur, of course, only in relation to finite causes.

Divisions of Possibility

Possibility is also spoken of as physical or moral. A thing is physically possible when it can be produced by some agent acting according to its natural powers in the regular course of nature. Thus it is physically possible for an acorn to grow into an oak, given the proper conditions of environment and making the proper allowance of time; but not physically possible for it to grow to an oak in a few moments or a few hours.

Moral possibility has reference to free agents, and a thing is said to be morally possible if the free agent can accomplish it without undue or unreasonable difficulty or inconvenience. Many things that are physically possible are not morally possible.

The capability of a non-existing being to exist is called objective possibility or potentiality, as contrasted with the capability of an existing being to receive some other mode of being or to exercise some activity. This latter capability is called subjective possibility or potentiality. Subjective potentiality itself is divided into: Passive potency, which means the capacity to be the recipient of some new mode of being or of some new perfection, or even to be deprived of some perfection already possessed; and active potency which is the capacity to exercise some activity. Active

potency is often called power, to distinguish it from the mere capacity or receptivity of the passive potency. An active potency is regarded as the immediate, proximate principle of action; the nature of a being is the remote principle of action. The nature is not a different reality from the essence of a being, but is that essence considered as the remote principle of action.

Natural, Preternatural and Supernatural

For some purposes it is necessary to notice the division of potency into natural and supernatural. A potency is said to be natural when the act which the being is capable of performing or the perfection it is capable of receiving is an act or perfection that is owing to the nature of the being. A potency is called supernatural when the act or perfection is not owing to the nature of the being. Such a potency is also called obediential. It is the aptitude of a being to be determined by God to the performance of an action or the reception of a perfection that is beyond its nature. A theist must believe that the omnipotence of God is not limited by the actual constitution of nature, and that, if there is reason for so doing, God can make use of natural causes to produce supernatural effects. The explanation of this divine intervention in the terms of Scholastic philosophy is that God endows the natural agents with supernatural potencies. If a distinction has to be drawn between supernatural and preternatural, supernatural must be taken to mean that which is not only not owing to nature, but which also elevates nature to a higher order of being and action; -while preternatural means that which is not owing to nature, but which, if given to nature, simply perfects the natural order and operation, but does not elevate them to anything higher. Thus grace

is supernatural, while the immortality of the body is only preternatural.

Actuality

The correlative of the possible is the actual, which is the fulfillment of the capacity of the possibility. As a correlative term for passive potency or potentiality we have the term, actuality or act. The term, act, does not mean action in this connection, but rather that which results from an action, an achieved result. Actuality or act is also called a perfection because it contributes to the completeness of a being by giving fulfilment to its potentialities.

Axioms in Regard to Potency and Act

1. Every potency has its corresponding act. This follows from the very idea of potency ; for potency is capability of a perfection, and act is perfection. The capability or potency would be meaningless unless there was an act to correspond with it.

2. Potency and act are contraries, and therefore,

3. A being cannot be in potency and act with regard to the same thing at the same time. This is an application of the logical rule that two contraries cannot be predicated of the same subject at the same time.

4. A being is perfect in as far as it is in act; imperfect in as far as it is in potency. The reason is because the being in potency implies the absence of the perfection to which the being is in potency. Therefore a being that is infinitely perfect will be act without potentiality, or pure act, as it is called. A finite being will always be a mixture of potentiality and act, a mixed act.

5. A potency is purposeless which cannot be reduced to act. The only purpose of a potency is to be reduced to act.

Applications of Potentiality and Actuality

Jn Aristotle's philosophy and in Scholastic philosophy this division of reality into potentiality and act is the most fundamental of divisions, and it is carried through the whole field of thought to explain the determinable and the determined. Thus in Logic the genus, which is itself undetermined, but capable of being determined to one or the other species, is thought of as potentiality, while the species, as determined, is thought of as act. The genus, animal, is potential as regards rational or non-rational animals. In the theory of the constitution of corporeal substance, matter, the determinable constituent, is potentiality, while form, the determining constituent, is act. Essence, which may or may not exist, is potential with reference to its act, existence. Existence is the first actuality of any essence. In receiving existence the essence passes from a condition of objective potentiality to a condition of actuality. It has become something—a subject. Henceforward it is actual in as far as its objective potentiality has been actualized, but it continues to be in a state of subjective potency in as far as it is still capable of receiving further completion of being or of exercising the active potencies that belong to it.

2. The Ultimate Reason of the Possibles

In regard to the possibility of being, two questions are of interest and importance:

1. What is the ultimate source or reason of the possibility of things?
2. How do we come to know what is possible or impossible?

Possibility Not Dependent on Our Minds

The possibles as known exist in the mind of the knower. But the very meaning of their possibility is that they are capable of existing outside of the mind. Actually, then, they are ideal; but potentially they are real. For this capability of existing outside the mind they are manifestly not dependent on our knowing them and thus giving to them ideal existence. They are not possible, or capable of existing, because we know them, but rather we are able to conceive them because they are possible. Their possibility, then, must go back to some source that is independent of our own thinking.

Ockam and Descartes

In attempting to assign the ultimate reason for possibility William of Ockam said that those things are possible which God can make exist actually. There is obviously a confusion here between intrinsic and extrinsic possibility, brought about by Ockham's tendency to deny all distinctions which he considered unnecessary. Descartes held that things are possible because God freely willed that they should be. The possibility or impossibility of things is not due to anything in the constitutions of things themselves, but simply to the will of God. "It seems to me," he says, "that we ought not to say in regard to anything that it cannot be done by God. . . . Indeed, I should not even dare to say that God could not cause one plus two to equal something else than three." And again: "God did not wish the three angles of a triangle to equal two right angles because he saw that it could not be otherwise, but on the contrary, because he wished the three angles of a triangle to be necessarily equal to two right angles, therefore this is now true and cannot be otherwise."

Possibility Not Dependent on God's Power or Will

Against these positions we must affirm that the intrinsic possibility of things cannot be dependent on the power or the will of God.

And first, it cannot depend on the power of God, for, if wc say that the reason for the possibility of things is because God has the power to produce them, we shall be compelled to admit that the reason for the impossibility of other things is that God has not the power to produce them. This would take all the meaning out of the idea of omnipotence; for omnipotence could then mean only that God can do what he is able to do. Besides this opinion of Ockam's is a clear instance of the neglect of the necessary distinction between intrinsic and extrinsic possibility.

The opinion that the possibility of things depends on the free will of God would make possibility purely arbitrary. In so doing it makes the necessity of our knowledge merely hypothetical. All our conclusions would have to be conditioned on the supposition that God had willed that the truth should be as we had discovered it. Moreover, in this case we could not know that anything is possible except what exists. For supposing the possibility to depend on the free will of God, wc could not know, apart from supernatural revelation, what God had willed except by what He had done. Consequently our knowledge of what God had willed, and hence our knowledge of what was possible would not reach beyond the range of existing things.

Possibility Dependent on the Divine Intellect

Descartes undoubtedly made the possibility of things depend on the free will of God because he wished to maintain the absolutely unlimited freedom of the Divine Will. But it is not thinking worthily of God to represent Him as acting arbitrarily and

even whimsically. Divine wisdom as well as human wisdom will surely require that the will should act in the light of what the intellect understands. To be willed by God the possibles must be known by God. Consequently, as ideal existence is the only existence that belongs to the possibles, we must say that they have this ideal existence primarily and necessarily in the Divine Mind. In this knowledge in the Divine Mind they are formally constituted as possibles.

Ultimate Foundation Is in the Divine Essence

Still this reference of the possibles to the divine mind where they arc formally constituted as possibles can hardly be accepted as the ultimate source of their possibility. For we arc faced with the difficulty that real knowledge is never an ultimate thing in itself. The mind presupposes its object and docs not create it. But just as for us to have a knowledge of universals it is not necessary that the universals should exist as such, or formally, before we know them, but it is sufficient that there should be a foundation for the universals in the concrete objects which we know; so it is sufficient that there should exist for the possibles a foundation in that which is the object of the divine knowledge. The foundation for our knowledge of the universals is the fact that there is in the concrete object of experience an essence capable of being multiplied in many individuals, and we can abstract this essence and think of it as capable of being multiplied, or even as actually multiplied in many individuals. Thus the universal is formally constituted by being known. In a similar way in God's knowing that his essence is imitable in finite things, the possibles are formally constituted. The ultimate source and reason for the possibility of things must, then, be looked for in that which is the necessary object of the divine knowledge and that is the divine essence. Therefore

the divine essence must be the ultimate reason and foundation of the possibles. This does not mean that the possibles themselves exist as such in the divine essence (for all that is in the divine essence must be God's own perfection), but that if anything at all besides God is possible, it is because it can imitate in a finite way some infinite perfection of God. God's essence as imitable in a finite way in created things is, therefore, the ultimate foundation of the possibles and the final reason why things are possible at all. God knowing his own essence perfectly, knows that certain of his divine attributes can be imitated in a finite way in created things; that, for example, his prerogatives as First Cause can be imitated in created things which shall be able after the fashion of second causes to produce other things. God's essence is therefore the Exemplar and Prototype of all reality.

Possibility and Intelligibility

It follows, therefore, that all reality is intelligible, and that the unintelligible is also unreal, impossible. We can use intelligibility as a test of possibility, but then we must mean by it absolute intelligibility, not intelligibility relative to our minds. Many writers speak of the unthinkable, but they often mean by unthinkable only the unimaginable. Now capability of being imagined is not test of possibility, for only the material can be imagined and even that only within rather narrow limits. We usually fail to imagine, except perhaps in a somewhat confused way, either the very great or the very small in size or in numbers. Sometimes, too, unthinkable means simply repugnant to our ideas of what is right and decent. In this case the unthinkable is not impossible, but only improbable.

Our Knowledge of the Possibles Derived from Existing Things

In answer to the question: How do we know what things are possible or impossible? it is evident in the first place that we do not know the possibles in their source which is the divine essence. Not having any direct knowledge of the divine essence we cannot know from it what things are capable of being imitations of it. But just as we must know the divine essence indirectly from our knowledge of created things, so we must come to know what things are possible from the things that are the objects of our direct experience, existing things. How did the human mind conceive that the flight of a hcavier-than-air machine was possible? Undoubtedly from seeing the problem solved in the flight of a bird. From the observed facts it could discover that there was no contradiction or incompatibility in the ideas which represented the problem. What is, is possible. *Ab esse ad posse valet illatio.* This does not mean, of course, that we can in this way exhaust the whole range of the possibles. Nevertheless our knowledge of the actual is what guides us in recognizing the things that are possible or impossible.

3. Change

Change Is the Passing from Potentiality to Act

The passing from potentiality to actuality is the process of Becoming. In Aristotle's philosophy this process was called xivqoig which was translated by the Latin word, *motus.* But the English word, motion, though once used in this connection, has now almost exclusively the suggestion of change of place. We are therefore obliged to translate Aristotle's term by the word, change. Change, then, will mean the passing from one state or condition of being to another,

which implies that there is something that was in the former state and will be in the new state. It is not a mere substitution of one state or condition for another; not merely putting the new state in place of the former one. Such substitution need not imply any more than change of place. But in Scholastic philosophy the idea of change goes much deeper than this. It is the coming forth of the new from the old, where the new was potentially. The new state is not created out of nothingness. It was in the potentiality of the old, but needed to be brought into actuality. The being which was actually in the old state and potentially in the new, after the change is actually in the new state. It is this being that has changed, and the change has meant that a potentiality it possessed has been reduced to actuality.

The Denial of Change

As was noted above, the Eleatics regarded change as a delusion because they held that the actual alone is real. zXll later systems such as that of the old Atomists, or more recent mechanical systems that account for apparent change on the supposition that the differences in things can be explained by new arrangements of the original unchangeable elements, likewise deny change in the sense explained above. The position taken on the subject of change will determine the whole character of the philosophy which it affects.

Real Change

That change occurs in the universe is so obvious a fact that, outside of the Elcatic school, it has not been denied. Indeed so important a feature of reality does change appear to be that Heraclitus and others have looked on the process of becoming as the only reality. But whether such change as occurs is

change in the sense we have described above,—real, intrinsic change resulting in the existence of a new being,—or whether the appearance of change is only a matter of rearrangement of forever unchangeable elements, is perhaps impossible of absolute determination. Nevertheless Scholastic philosophy takes its stand on the position of Aristotle that there is such a thing as real, intrinsic, substantial change and that new substance results from such change. In this stand it accords with the general convictions of mankind; for men in general do believe that there are real differences in things other than the differences which can be caused by the mere new arrangements of old things. Accepting this standpoint we must proceed to show what the requirements for such real change are.

Kinds of Change

Aristotle recognized four kinds of changes: local change, change in quantity, change in quality and change in substance. Of these the first three are called accidental. No new substance results from them, but the old substance remains, modified as to location, quantity or quality. The fourth class is the substantial change with which we are most concerned.

Requirements for Real Change

To have a real change there must be two actually existing termini of the change. The *terminus a quo* is the state in which the being which changes exists at the beginning of the change. The *terminus ad quern* is the state in which the being that changes is found at the end of the change. There must also be a real passing over of something from the *terminus a quo* to the *terminus ad quern*. We do not call creation a real change, for there is no actually existing *terminus a quo* at the begin-

ning of the change. Neither would annihilation be a real change, for the *terminus ad quern* is nothingness.

In our thinking about change we must be careful not to represent it to ourselves as if something passed unchanged from the *terminus a quo* to the *terminus ad quern,* somewhat as we might picture the sun as passing, itself unchanged, from a clouded part of the sky to a clear portion. What really happens is rather like this:

Accidental and Substantial Change

In the beginning of the change, in the state which we call the *terminus a quo,* there is a being with a certain amount of actual perfection, but also with certain subjective potentialities, which we have explained above to mean capabilities of receiving further perfection or even of being deprived of perfection possessed. In the course of the change the potentiality of the being is actualized, reduced to act. If the potentiality which was actualized was the potentiality to be modified in regard to location, quantity or quality, we have what is called an accidental change, and we find in the *terminus ad quern* the same being substantially as we had in the *terminus a quo.* But it has not passed over unchanged. To pass over it had to lose its old condition of place, or quantity or quality, and acquire a new condition. If the potentiality actualized was a potentiality to be modified substantially, then this potentiality of the old substance is what is actual in the new, and the actualizing of the potentiality means that the being with which the change began is altered substantially, or in other words, that a new substance exists at the end of the change.

An Actual Being Is Required to Reduce Potentiality to Act

What, it may be asked, actualizes the potentiality in the process of change? The answer must be: Some being that is already actual. A potentiality cannot actual-

ize itself. This is the meaning of the Scholastic axiom: *"Quidquid movetur ab alio movetur."* Whatever changes is changed by something else. In the individual finite being potentiality precedes actuality. A being must be possible before it can begin to exist. But this cannot be true of reality considered as a whole. If all reality were potential, nothing could ever be actual.

> This necessity of the actual being to explain reality shows the untenability of a philosophy like that of Hegel, which explains reality as evolving from the condition of indeterminate being, which is equal to nothing.

Extrinsic Change

There is a kind of change which results in a being's acquiring of a new name without any necessary alteration in the being itself. This kind of change is called extrinsic. Such a change takes place whenever a thing once unknown becomes known. The change in this case is in the condition of the knowing subject, not in the thing known.

Summary

Possibility means capability of existence, and includes intrinsic and extrinsic possibility. Possibility may be divided into: physical and moral; natural and supernatural. Actuality is the fulfilment of the capacity of the possibility. Potentiality and actuality are correlatives and contraries; they cannot both be true of the same being at the same time; but a being's actuality is its perfection, while its potentiality indi-

*The first being must of necessity be in act, and in no way in potentiality. For although in any single thing that passes from potentiality to actuality, the potentiality is prior in time to the actuality; nevertheless, absolutely speaking, actuality is prior to potentiality; for whatever is in potentiality can be reduced into actuality only by some being in actuality. (*Summa Theologica,* I, q. 3, a. I.)

cates its imperfection. The intrinsic possibility of things is not dependent on our knowing; nor is it dependent on the power of God, as Ockam said, nor on the will of God, as Descartes claimed; but on the Divine Intellect knowing the Divine essence as the foundation of all possibility. Our knowledge of what things are possible is built up on our knowledge of existing things. The passing from potentiality to actuality is change. In real change the new state of being is not created from nothingness, but brought into actuality from the potentiality of the subject changed. Real change was denied by the Eleatics and real substantial change is denied by all who hold that what is new in reality is only a re-arrangement of the old. Scholastic philosophy stands with Aristotle for real change, which is substantial when a new substance results, and accidental when the result is only a modification of the old substance. Actuality must have preceded potentiality; otherwise there could be no passing from potentiality to actuality.

Propositions to Be Explained and Established

1. Whatever is intrinsically possible is also extrinsically possible with regard to God's omnipotence.
2. The possibility of things does not depend on our being able to conceive them.
3. Intrinsic possibility does not depend on the power or on the will of God.
4. Possibles are formally constituted by the divine intellect; but they have their foundation in the divine essence.
5. We know what things are possible through our knowledge of existing things.
6. Change is a passing from potentiality to act.
7. Real change occurs.
8. A potentiality cannot actualize itself.

Suggestions for Further Study

1. Descartes' teaching on the reason for the ultimate possibility of things. (Cf. Rickaby, *General Metaphysics,* 175 sq.)

2. Explanation of the axiom: *"Quidquid movetur, ab alio movetur." (Cf.* Coffey: *Ontology,* 61 sq.)

References

On the Meaning of Potentiality and Actuality

Rickaby: *General Metaphysics,* 166-173.
Mercier: *Manual,* I, 506-508; 511-516.
Coffey: *Ontology,* 51-61.
Catholic Ency.: I, 124, sq.
Perrier: *The Revival of Scholastic Philosophy,* 49-52.

On the Ultimate Reason of the Possibles

Rickaby: *General Metaphysics,* 173-188.
Coffey: *Ontology,* 95-100.

On Change

Mercier: *Manual,* I, 509-511.
Coffey: *Ontology,* 61-73.
DeWulf: *Medieval Philosophy,* 66-73.
O'Neil: *Cosmology,* I, 98-106.
St. Thomas: *Summa Theologica,* I, q. 9, a. 2.

CHAPTER V

THE TRANSCENDENTAL ATTRIBUTES OF BEING

1. The Meaning and Number of the Transcendentales

Transcendental Notions

In Scholastic language that notion is called transcendental which stands above the highest genera, and includes under its extension all reality of whatever kind. It can therefore be predicated of any and everything that has any reality at all. Six transcendental notions are usually recognized and enumerated in metaphysics:

ens	being
res	thing
aliquid	something
unum	one
verum	true
bonum	good

Of these the first three are synonyms. "Thing" and "something" add nothing to the notion of being. The latter three do add to the notion of being. "One" adds the negation of division in being, and "true" and "good" add a relation. "Thing" and "something" are not properly attributes of being and cannot be so used, but "one," "good" and "true" can be so used, and are therefore called the transcendental attributes of being. They are, of course, themselves being and do not add any new reality to being, but only the negation or relation, as already stated. Of these attributes "one" is considered absolute, and "good" and "true" relative.

St. Thomas' Schematization of the Transcendental

The meaning of these Transcendental and their relations to one another may be schematized as follows:

According to the teaching of St. Thomas *(De Veritate,* q. I, art. 1) that which the intellect conceives first, as most evident, and into which all other concepts are resolvable, is being. All other concepts, then, must be formed by some addition to the notion of being. Such addition cannot be in the nature of any new reality, for the additions themselves will be being; but will rather be in the nature of an explicit statement of a modification of being which is not explicit in the concept of being itself. Now this can be done in two ways:

I. By expressing something that is a special mode of being, as, for example, substance, *ens per se;* where *"per se"* is not the addition of new reality to *"ens"* but only the explicit expression of one kind of being.

II. By expressing something that is consequent on everjr being. This, again, can be done in two ways:

1. By expressing something that is consequent on every being considered absolutely, or in itself. Now such expression may be:

   a. Affirmative, in which case there is only one consequent on every being, and that is the possession of essence. To express this we have the word, *res, thing,* which, therefore, is to be taken to mean: being considered as essence.

   b. Negative, in which case also there is but one consequent on every being and that is indivision. To express this we have the word, *ununi, one,* which must, therefore, be taken to mean: being considered as undivided.

2. By expressing something that is consequent on every being considered relatively. This again can be done in two ways:
   a. With reference to the division of one being from another, and for this we have the word, *aliquid, something,* which must therefore be taken to mean: Being as distinct from other beings.
   b. With reference to the relation of being to mind, which again, may be either:
      a'. The relation of being to intellect for which relation we have the word, *verum, true,* to mean: being conformed to thought,
      b'. The relation of being to will, for which relation we have the word, *bonum, good,* to mean: being suitable to desire.

2. Unity, Identity and Distinction

Meaning of Unity

Unity is a simple notion incapable of strict definition because it cannot be separated into any concepts simpler than itself. To explain it wc contrast it with its opposite, division. That is said to be "one" which is undivided in itself and divided from everything else. *"Indivisum in se et divisum a quolibet alio."* "One," says St. Thomas, *(De Veritate,* q. I., a. 1.) "is nothing else than the undivided."

Unity Not a Reality Distinct from Being

To attribute unity to being is not to attribute to being any new reality that is not already expressed in the concept of being. It merely adds the notion of

undividedness to the notion of being, and states that being, in as much as it is being and is conceived as being, is undivided. If a thing is divided, it no longer is, nor is considered, being, but beings. (St. Thomas: *De Bono;* Art. 1.) A fleet is made up of many ships, but it is only one being as long as we do not make any division in it, but regard the whole aggregation of objects as one object of thought. So a being that is made up of parts is to be regarded as one being as long as we do not make a separation of its parts in fact or in thought. To have unity, then, it is not necessary that a being should be indivisible, but only that it should be actually undivided.

Unity a Transcendental Notion

St. Thomas proves that unity is a transcendental attribute of being, or that every being is one, in the following extract:

> "One is convertible with being. For every being is either simple or compound; but what is simple is undivided both as to act and potentiality; and what is compound is not a being as long as its parts are divided, since it becomes such only when they form the compound. Manifestly, then, the being of everything is undivided, and the thing keeps its being as long as it keeps its unity. *(Summa Theologica,* I., q. 11, a. 1.)

Kinds of Unity

Since, then, unity is undividedness, there can be many kinds of unity, corresponding to the many kinds of beings that are undivided. We enumerate as kinds of unity:

I. Metaphysical unity, which is the unity of a simple being, i. e., a being that is not composed of parts and is therefore indivisible, because it has no

parts into which it can be divided. An example of a being with metaphysical unity is a spirit.

2. Physical unity, which is the unity of a compound being. Such a being is not indivisible, but is capable of division into parts. It has physical unity as long as the parts united make up the whole. To understand physical unity, however, we must bear in mind the meaning assigned to "part" in Scholastic metaphysics. A part is not one unit in an aggregate of things, as one man in a crowd or one stone in a wall; it is not anything complete, but something essentially incomplete; something, therefore, that cannot exist except united with other parts to make up the whole. The meaning of physical unity in Scholastic philosophy cannot be understood apart from the Scholastic theory of the composition of bodies. (See below, pp. 163-190.)

Unum Per Se and Unum Per Accidens

The unities which we have called metaphysical and physical are the kind of unities which arc called unities in the strict sense, *unum per se.* Other unities, to which the name, accidental unities *(untan per accidens),* is given are the following:

1. Logical unity, the unity of many things under the extension of one concept; e. g., the unity of all men under the extension of the concept, "rational animal." Every universal concept is a logical unity.

2. Artificial unity, the unity of many things, each in itself separate and independent, but put together by man's art for a common purpose; e. g., a watch.

3. Unity of Aggregation, the unity of many which consists in the mere coincidence of' many things in one time or place; e. g., a pile of stones, a crowd, a period of history.

Moral Unity

In the moral order we recognize a unity which is called moral, and which consists in the union of several persons, each in himself a separate and independent individual, but all bound together by some moral bond or some common end in view. Such a moral unity is a society of men. If the moral bond is one which arises out of the very essentials of human nature, as is the case with regard to the bond that holds men together in the family and in civil society, this unity is an *unum per se* of the moral order. Where the bond does not arise out of the essentials of human nature, the unity is an *unttm per accidens;* e. g., a society for the promotion of the study of the Middle Ages.

Multitude; Number

Multitude is the aggregation of many units. Multitude is potentially infinite in the sense that no limit can be assigned to it beyond which a further extension of the multitude could not be conceived. When multitude is measured by unity, we have the concept of number. Number cannot be actually infinite, for the very idea of number is that it should be measured by unity. It can be potentially infinite in the sense that it is always possible to think of a number greater than any assignable number.

Identity

Allied with the concept of unity is the concept of identity. Identity means the sameness of a thing with itself (real identity), or with something else (logical identity). In the abstract the essence of anything always remains the same as itself, and the essences of things of one kind always remain the same with each other. That is what was meant above by saying that essences were immutable. But in the concrete, being is never entirely static or unchanging.

Consequently there is never any absolute identity of any finite concrete thing with itself from one moment to the next. Yet we do use the idea of identity in thinking of concrete things, modifying the idea to meet the requirements of the facts. Thus we look upon a thing as physically identical with itself at different intervals of time, if the changes it has undergone are such as can be considered negligible when compared with the essentials of the thing. A man is considered the same individual he was when a boy in spite of the changes that have taken place in the interval between boyhood and manhood. A thing is said to be morally identical with itself when the common opinion of men considers it the same no matter how extensive the changes have been. Thus a society can be considered the same society over long intervals of time, even though the membership has entirely changed if the original purpose of the society remains. Evidently, then, in the application of the idea of identity to the concrete we do not regard the strict meaning of the idea, but accommodate the meaning to the requirements of concrete reality.

Distinction

Opposed to identity is the idea of distinction, which is the lack of unity or sameness among things. Clear thinking depends very largely on the ability to recognize distinctions in things that might be confused. On the other hand the tendency to make distinctions where the requirements of reality afford no foundation for them leads to the habit which has been called hair-splitting.

There is no very general agreement on the number or kind of distinctions that ought to be recognized, except in the general admission that a distinction is mental when it would not exist in things unless the mind made it; and that it is real if it is found in things

independently of the operation of the mind. Often it is not easy to decide whether a distinction exists independently of the mind or not, and consequently whether it is real or only mental. Not to multiply distinctions unnecessarily, it seems better to limit those which we recognize to the following kinds:

Kinds of Distinction

1. Among real distinctions:

a. The Major real distinction, which exists when things are either actually separated, or at least are capable of such separation that each can exist without the other. Two individual beings or two parts of a physical compound would illustrate this distinction.

b. The Minor real distinction, which is the distinction of the substance from its mode.

2. Among distinctions of reason, or mental distinctions:

a. The Purely Mental distinction when the mind forms two ideas which are really synonymous about the same thing. But just as it is extremely difficult, if not impossible, to find any two terms that are perfectly synonymous, so it is hardly possible to find evident examples of a distinction which is purely mental, or two distinct concepts that mean entirely the same thing. "Six" and a "half a dozen" illustrate an approach, at least, to a purely mental distinction. This distinction has not much value in reasoning.

b. The Virtual distinction, which is a mental distinction but has a foundation in the reality of the thing about which the ideas are formed. The virtual distinction occurs when some one reality affords to the mind the opportunity for forming two concepts which are formally different. Thus, in the explanation of the difference between essence and existence as given by Suarez and others, the actually existing things afford the mind the opportunity to form two concepts, one

of essence and one of existence. The concept of essence is not the concept of existence though both concepts represent one actual reality. Thus, too, we distinguish in the one simple reality of God, intellect and power. Now what the concept of intellect expresses is not what the concept of power expresses, though in God intellect and power are one reality. This distinction is of very great value for clear and accurate thinking.

> The Scotistic distinction. Scotistic philosophy employs a distinction called the Formal distinction. It is not a mental distinction because the distinctness exists prior to the operation of the mind. Neither is it real, for it is not a distinction between things but between formalities.

Unique Being

When a being is not only one but also the only one of its kind, it is called unique. Thus since it appears that the moon is the only terrestrial satellite, it may be called unique, but there is not any reason in the nature of things why the earth should not have many moons as some other planets have. Consequently we cannot think of the moon as a thing that is unique in the strict sense. When a being is of such a nature that there can be no other being of the same kind, it is unique in the fullest sense. Only God is unique in this meaning of the term.

The Principle of Individuation

A somewhat abstruse question connected with the idea of unity is the question: What is the principle of individuation? The meaning of this question is: What is it in a being that constitutes the being an individual being? The principal answers to this question may be formulated briefly as follows:

1. A being is constituted an individual by the possession of matter in a definite quantity *(materia signata).* This is the answer given by the Thomists. According to this answer there could be different individuals only among beings that are at least partially material. Purely spiritual beings would differ from each other by their whole specific essence.

2. According to the Scotists individuality is constituted by the presence in the being of a formality which is distinct from the reality of the individual.

3. According to Suarez a being is constituted an individual, not by any definite quantity of matter, nor by any formality distinct from its reality, but by the possession of its own reality.

The Thomistic opinion is held and defended by Cardinal Mercier. See his *Manual,* Vol. I., pp. 431-434. Rickaby discusses the Scotistic opinion, but adheres to the opinion of Suarez. Sec his *General Metaphysics,* pp. 98-101.

3. Truth and Falsity

Ontological Truth

Truth as a transcendental attribute of being means the conformity of being to mind. This truth, the truth of things, is called also ontological or metaphysical truth. Besides this truth of things we speak likewise of truth of thought, which consists in the conformity of the thought to the thing which is its object. This kind of truth is called logical truth. There is, moreover, moral truth, which consists in the conformity of speech with the thought that is in the mind. Our concern at present, however, is with the truth of things only.

It should be noted in passing that, according to the teaching of St. Thomas, truth is found properly and primarily in the divine intellect;

> properly, but secondarily in the human intellect; and in a less proper sense it is found in things. (QQ-de *Veritate,* q. I, art. 4.)

Being Is Intelligible Because Conformed to Mind

If being is conformed to mind, then being is capable of being understood in so far as it is capable of revealing to us the idea in the mind on which it depends. One who has discovered the remains of some vanished civilization and wishes to understand and explain them, could only do so in so far as he was able to grasp what was in the mind of the builders of the things of which he had found the remains. If a thing is intelligible, it embodies an idea, and in the light of that idea we understand it. A flint arrowhead or a stone axehead is a revelation to us of something that was in the mind of the savage who made it. He wanted a weapon that would pierce, or a tool or a weapon that would strike crushing blows, and the flint and the axehead embody what he had in his mind as well as the material available and his own skill could embody it. So all things that we call artificial—man's handiwork—reveal to us the ideas in the minds of the makers. This they can do, of course, only because they are conformed to the ideas in the minds of the makers; but unless they were so conformed, they would not exist at all.

Truth a Transcendental Notion

But can we extend this idea of the necessary conformity of things to the mind of the maker so as to embrace as well those things which we call natural—the universe and all that is in it? Not unless there is a mind to which all things are known and on which all real things, itself alone excepted, are dependent. All created things will have truth if they are conformed to a creative intelligence, for on that intelli-

gence they will depend for existence, and that intelligence itself as a reality will be conformed to itself because it will be known to itself.

For one who does not admit the existence of such an intelligence the question: "Is all being true?" or the further questions: "Is all being intelligible?" and, "Must things be as they are?" can find no answer. He can only know that many things have truth in the sense of being conformed to his mind, for he finds them so conformed. But for the things which he does not actually know he cannot answer, and even for the things he knows he has no right to say that they must be as he knows them, but merely that he finds them so. He cannot account for transcendental truth in being any more than he can account for the intrinsic possibility of things beyond his experience. For without intelligence there would be no truth of things. As St. Thomas says, if neither human nor divine intelligence were supposed to exist, there would be no such thing as truth. *(De Veritate,* q. I, art. 2.)

Therefore to show that there is transcendental truth in being we must assume (what is to be proved in another place) that there exists an infinite Being, who knows all things and on whom all finite things depend for their being. To the intellect of such a Being all things will be conformed: His own being, because His own being will be known to Himself; all finite realities, because they are not only known to Him but dependent on Him; and even all negations and privations which arc found in finite things, because these also will be known by Him. From the existence of this infinite intelligence "it follows that nothing can be literally chaotic or out of all relation to mind. Hence every being is true, which was the proposition to be proved. It is the simplest deduction from our premisses. St. Augustine *(Soliloquium,* c. 5), then, is right in his remark that 'the true is that which

is', and the delicate Orientalism which does duty for our rude phrase, 'to tell a lie', has a sound philosophical basis: the liar 'says the thing which is not.' For whatever is, is true, and a lie asserts what is not, even when its falsehood consists in denying a fact." (Rickaby, *General Metaphysics,* 111, 112.)

Truth Not a Reality Distinct from Being

No new reality is added to being by the fact that all being is true; for there could be no reality which was truth and at the same time not being. What is added to being by truth is the relation of the being to an intellect, and, as we have seen, all being by the very fact that it is being has this reference to intellect. Truth is, therefore, a transcendental attribute of being.

The relation of things to the divine and the human intellect, as explained by St. Thomas, shows us the divine intellect as the measure of the truth of all things.♦ The human intellect is the measure of the truth in the things that depend on it, that is, in artificial things. But the truth of the things of nature is not measured by the mind of man; but rather the truth in these things is the measure of truth in the human mind, and in order to possess truth at all the human mind must conform itself to things. The metaphysical or ontological truth of things is, therefore, the measure of truth in our minds and sets the rule for our minds *(De Veritate,* q. I, art. 2).

Relativity of Truth

This doctrine that truth in the human mind is measured by the things that are, and not vice versa, is, of course, opposed to the dictum of the Sophist: Man is

♦"Thus we may well say every *form* is a footprint or ray of the Creative Intelligence impressed upon the heart of the created being." *The Philosophy of Art,* by Jacques Maritain. English translation by John O'Connor, p. 35.

the measure of all things. It holds that there is such a thing as absolute truth—truth that is the same for all minds and that has its foundation in the necessary essences of things of which we spoke above (chapter III). The doctrine of the relativity of all truth, that what is true for one mind may be false for another, or that what is true today may be false at another time, is a favorite doctrine in much modern philosophy. Thus in Pragmatism, according to Professor James: *"'The true,' to put it very briefly, is only the expedient in our way of thinking, just as 'the right' is only the expedient in our way of behaving."* *

And again: *"True ideas are those which we can assimilate, validate, corroborate and verify. False ideas are those that we cannot.* That is the practical difference it makes to us to have true ideas; and therefore it is the meaning of truth, for it is all that truth is known as." ** Expediency as the measure of truth is perhaps as good as any other measure, once men have abandoned the idea of a supreme Intelligence which is the measure of all truth and gives to all truth its absoluteness and necessity. Necessary truth, as opposed to purely relative truth, must surely consist in the conformity of the being with the mind on which the being depends for its existence. If, then, there were no creative Intelligence, there would be no reason why being should have to conform to mind, since there would be nothing on which it would necessarily depend for its existence. The universe might then be irrational, and in this case there would be nothing to prevent us from picking out and holding for true whatever happened to suit our convenience. But then, of course, we should have taken all the meaning out of truth and made it mean no more than goodness or suitability.

* *Pragmatism*, p. *222;* Italics in original.
p. 201; Italics in orginal.

> "Our minds," says St. Augustine, "see the truth sometimes more and sometimes less, and thus they show that they are mutable; while truth itself remaining -what it is, neither is advanced when we know it more, nor diminished when we know it less; but continuing whole and uncorruptcd, it gladdens with its light those that set their faces towards it, and strikes ■with blindness those that turn away." *(De Libero Arbitrio,* II, cap. 8.)

The Meaning of Falsity

If every being is true, the questions naturally arise: What can falsity mean? and, How can anything false exist? Falsity consists in lack of the conformity with intellect which constitutes truth. That which is said to be false is really different from what it is conceived in the mind to be. But the thing that is said to be false is really what it is, and therefore what it appears to be to a mind that sees all things as they are. Consequently with reference to the divine mind which sees all things as they really are, nothing can be false. For everything will be conformed to the divine mind conceiving it as it is. But in regard to any fallible intellect it is possible for some things to be false, and this, as St. Thomas says, is in some way caused by the things themselves. For those things, he says, quoting Aristotle, are called false which are apt to appear to be the kind of thing they are not or the thing they are not. The reason for the falsity of things is also due in part to the way we have of forming judgments. For we do make our judgments largely on the appearance of things, being satisfied with mere outward and purely accidental qualities which arc not always true indicators of the real inward nature of the things. Thus we may judge a thing to be gold by its color, which, of course, is no

true index of the nature of gold. But we must remember that even the thing which we call false is true, though it is not the thing we think it to be. The counterfeit is a true thing of a certain kind, and false only because we judge it to be something else. (*Summa Theologica,* I, q. 17, a. 1.)

4. Good and Evil

Meaning of Goodness

Good is defined as that which is suitable to something: *id quod est alicui conveniens.* The something to which a thing is suitable may be the thing itself, for a being's own essence is suitable to it, and in this case the good is thought of as absolute; or it may be something other than the being's own essence, and then the good is thought of as relative. This division, however, must not be allowed to obscure the fact that all goodness is a relative attribute of being, since it is suitableness of being to something. Keeping this fact in mind we can still see the appropriateness of distinguishing the goodness which is suitableness to self from the goodness that is suitableness to another.

> Again, there is another use of the expression, "absolute good," which must not be confused with the one mentioned above. This other use of the term consists in making "absolute good" mean the same as Supreme Good or Infinite Good.

St. Thomas (*Summa Theologica,* I, q. 5, a. 1, resp.) defined the good as that which is desirable, basing his definition on the saying of Aristotle: The good is what everyone desires (*Ethics,* I, 1.) This is not really a different definition from the one given above, for the desirability of anything is on account of its suitableness.

Kinds of Goodness

In terms of desirableness or suitableness the good may be distinguished into the:

1. *Bonum honestum,* the befitting good, which is desirable because it is suitable to perfect the nature of the being that desires it. Physical integrity, health, knowledge, virtue, are examples of befitting goods. When the good is suitable to perfect the rational nature of man, it is called the moral good.

2. *Bonum utile,* the useful good, a good whose desirability or suitability consists in this that it is a means towards the attainment of the befitting good;

3. *Bonum delectabile,* the pleasure-giving good, which consists in the enjoyment or possession of the befitting good.

It is to be noted, however, that a good which is at one time a befitting good and is sought for itself, may at another time be a merely useful good and be sought as a means to some further good. Further, a thing may be a good in all three senses at once. Thus eyesight is befitting, useful, and pleasurable. Or a thing may be good in the sense of pleasure-giving or useful, without being a befitting goud.

In relation to man good may be:

1. Apparent, when it appears desirable as satisfying the cravings of man's lower nature, but is really undesirable in view of the demands of his higher nature; when that which is no more than a pleasure-giving or useful good is desired as if it were a befitting good.

2. True good, when it perfects the higher nature of man, or when it is suitable to the whole man's well-being.

Relation of Goodness to Being

The relation in which goodness stands to being is thus stated by St. Thomas (Summa *Theologica,* I, q. 5, a. 1, resp.) :

> "Goodness and being are really the same and differ only in idea; which is clear from the following argument. The essence of goodness consists in this, that it is in some way desirable. Hence the Philosopher says (I. *Ethic.) : Goodness is what all desire.* Now it is clear that a thing is desirable only in so far as it is perfect; for all desire their own perfection. But everything is perfect so far as it is actual. Therefore it is clear that a thing is perfect so far as it exists; for it is existence that makes all things actual. . . . Hence it is clear that goodness and being are the same really. But goodness represents the aspect of desirableness which being docs not present."

Good a Transcendental Notion

That goodness is a transcendental notion, or that every being is good, is shown by the following considerations. Every being is good, first absolutely, that is, in regard to itself; for every being possesses its own reality, and in having its own reality it has that which is suitable to itself. Secondly, every being is good relatively to something else, for every being is related to something else in the relation of cause and effect, or the relation of substance and mode, or the relation of part and whole. Things so related arc suitable to that to which they are so related. Therefore every being is both absolutely and relatively good, and good is a transcendental notion. "Every nature, in as much as it is a nature, is good." (St. Augustine, *De Natura Boni,* c. i.)

Degrees in Goodness

It is not asserted that every being is good or suitable to every other being, but only to some other being. Nor in speaking of absolute goodness do we assert that the goodness of all things is equal. Different degrees of perfection, and consequently of goodness, must be recognized in beings. Hence St. Augustine says *(Enchiridion,* X): "By this Trinity, supremely and equally and unchangeably good, all things were created, and that neither supremely, nor equally, nor unchangeably good, but yet good even each one." And further on (chap. XII): "Every nature therefore is good; a great, if it can not be corrupted; a small, if it can: yet in no sense can it be denied to be a good." (Oxford translation.)

In What Evil Consists

The claim that every being is good brings up the question of the existence and the meaning of evil. On this question St. Augustine, who had himself adhered to the Manichean sect, in his book, *De Natura Boni* (On the Nature of Good), written against the Manicheans, sets forth the doctrine on this subject which has been accepted by Scholastic philosophy generally. Evil is not any positive reality, but a privation of reality. St. Thomas defines it *(Summa Theoloffica,* I, q. 44, a. 1, resp.): "Evil is the lack of a good which is natural to a being and which a being ought to have." This is not denying that evil exists, but rather showing that its true nature consists in the fact that finite things can be deprived of some of the reality which belongs to them and which they ought to have, and that this privation, being the opposite of what is their good, is undesirable, unsuitable for them, and renders them, as well, unsuitable for others. Evil then exists in some good, in the sense that some good thing is de-

prived of some of its goodness; but evil could not exist by itself as a separate reality.

No Principle of Evil

Against the Manicheans who asserted the existence of a Supreme Evil as the Principle of Evil, St. Augustine argues that "there cannot be evil except it be in some good." "Therefore," he says,

> "all natures, in that the Author of all natures whatsoever is supremely good, are good: but because they are not, as their Author, supremely and unchangeably good, therefore in them good may be both increased and diminished. But for good to be diminished is evil; although however much it be diminished, there must necessarily remain something (if it is still nature) whence it may be nature. For neither if it be nature of what kind and how little so ever, can the good be destroyed by which it is nature, unless the nature itself be destroyed. . . . And for this reason that which is called evil is not, if good be not. . . . Nor can evil be where good is not. Whence a wonderful thing is brought to pass, that, whereas every nature, as far as it is nature, is a good, nothing else would seem to be said, when a faulty nature is called an evil nature, but this, that that is an evil which is a good; since every nature is a good, nor would anything be evil, if the thing itself which is evil were not a nature. There cannot therefore be evil, except in some good. . . . Every nature, therefore, although it be faulty, so far as it is nature, is good; so far as it is faulty, is evil. Out of goods, therefore, have evils arisen, and except in certain goods they are not. Nor was there any other source whence any nature of evil could arise. For

> if there were, so far as it was nature, it would assuredly be good." *(Enchiridion,* xii, xiii, xiv.)

It is clear, then, from this understanding of the nature of evil that there cannot be anything that is merely evil. If it had no good in it, it would have no being in it, and could not exist at all. Such an understanding of the nature of evil is necessary to account for the difficulties that are met with in explaining the presence of evil in the world. Looking on evil as something positive is what led the Manicheans to introduce their Supreme Principle of evil as the cause of evil in the world; just as they recognized a Supreme Principle of good to account for the good in the universe. But if nothing can be merely or wholly evil, there can be no such Supreme Principle of evil, nor is there any need of any such principle to fall back upon to account for the existence of privations of good and limitations on reality in a world of finite and changeable things. All that is positive reality in finite things must be referred to a First Efficient Cause to explain its existence; but negations, privations, limitations are not realities, and are not referred to any efficient cause.

Evil and Providence

Other considerations in connection with the existence of evil in the universe must be postponed for treatment in connection with the subject of Providence. But that the existence of evil is not incompatible with a benevolent government of the universe may be shown in general terms by the following citation from St. Thomas (Stonwiu *Theologica,* I, q. 22, a. 2, ad 2um) :

> "We must speak in different terms of one who has care of a particular thing, and of one whose providence is universal, because a particular provider excludes all defects from what is subject to

his care as far as he can ; but one who is universal allows some little defect to remain, lest in removing it the whole plan should suffer. Hence corruption and defects in the things of nature around us are said to be contrary to some particular nature; but they are in keeping with the plan of general nature; inasmuch as the defect in one thing yields to the good of another or even to the universal good. For 'corruption of one is the generation of another/ and through this it is that a species is kept in existence. Since God, then, provides universally for all things, it belongs to His providence to permit certain defects in particular effects, that the perfect good of the universe may not be hindered. If all evil were prevented, much good would be absent from the universe. A lion would cease to live if there were no slaying of animals; and there would be no patience of martyrs if there were no tyrannical persecution. Thus Augustine says: 'Almighty God would in no wise permit evil to exist in His works, unless He were so almighty and so good as to produce good even from the evil.' "

5. Beauty

The Beauty of Being

Closely related to the goodness of being, and yet not entirely identical with it, as the notion of beauty. "The beauty of being," says Jungmann *(Die Schonheit und die schone Kunst,* 135), "is nothing else than the intrinsic goodness of the being, in so far as this intrinsic goodness is the ground of the pleasure experienced by the rational mind which contemplates it." And Maritain *(The Philosophy of Art,* 32): "The Beautiful is that which gives joy, not all joy, but joy in knowing; not the joy proper to the act of knowing, but a joy abounding

and overflowing from this act because of the object known. If a thing uplifts and delights the soul by the very fact of being granted to its intuition, it is good to lay hold of, it is beautiful."

Beauty in Relation to Metaphysics

The interest of the subject of Beauty for Metaphysics is found merely in the search for the ontological reality in things on account of which things are called beautiful by us. That this reality is not easy to fix on with entire definiteness is, perhaps, best seen from the numerous attempts that have been made to define beauty. Some of these definitions will be given and considered later on. For the present our purpose must be to seek to discover what the thing, beauty, is, which these definitions have essayed to describe.

Beauty Not Purely Subjective

And first, it should be made clear that the claim that beauty is objective—that it is some reality in the thing called beautiful—and not purely subjective, is not a mere assumption, but a claim that can be substantiated. For experience shows us that in the presence of certain objects there is stirred up in us an emotion of the peculiar kind which we call *esthetic*. We do not experience this emotion in the presence of all objects, but only in the presence of certain ones. It is not, therefore, something merely subjective, but it has an objective reference and is dependent for its existence in us on the real or imagined presence of the appropriate objects—those that we call beautiful. There must, then, be something in those objects themselves that accounts for the awakening of the emotion in us; and this something is the objective element in beauty, its ontological reality.

The discussion of the subjective side of the beautiful belongs to psychology rather than to metaphysics. The student who wishes to follow up this

subject will find material in Coffey: *Ontology,* in the chapter on Reality and the Beautiful; G. Sortais: *Traité de Philosophie,* vol. II, pp. 378 sq.; Joseph Jungmann: *Die Schonheit und die Schône Kunst.*

Why Do We Call Things Beautiful?

The way to find out what this objective element in the beautiful is would seem to be to ask, What is there peculiar about the things we call beautiful? What is in them that makes them capable of awakening this esthetic emotion, while other objects leave us cold, or even stir up in us emotions of displeasure? It is not merely the truth of these beings; for mere truth makes no appeal to emotion. To find out, after a process of reasoning, that the square of the hypotenuse of a triangle is equal to the sum of the squares of the other two sides, gives us a certain intellectual satisfaction which is agreeable, but which is still entirely different from the feeling of pleasure that beautiful objects are the occasion of. Neither is it merely because the object is good, for the pleasure which the good provides is to be found only in the possession of the good. Consciousness of the lack of a good is painful. But the esthetic emotion does not wait on the possession of a good. The mere contemplation of the beautiful object arouses it. Hence St. Thomas says, defining the beautiful by its effect on us, "Beautiful things are those which please when seen." (*Summa Theologica,* I, q. 5, a. 4, ad 1um.)

The Objective Elements According to St. Thomas

These considerations serve to show the beautiful as distinct from the true and good, but they do not satisfy our search for the objective element of beauty. This need St. Thomas supplies in his teaching that beauty implies three conditions in the object: "*Integrity or perfection,* since the things which are impaired are by the

very fact ugly; clue *proportion* or *harmony;* and lastly *brightness* or *clarity." (Summa Theologica,* I, q. 39, a. 8.)

If it is true that, where there are in things integrity, or the complete perfection of the thing according to its kind, and due proportion or harmony of parts with one another and with the whole, and in these elements a certain "shining-out" or conspicuousness, the things will be capable of arousing in us the emotion of esthetic pleasure, then we can rightly claim that these are the objective elements of the beautiful. It is easier, however, to show that the lack of them produces displeasure, than that their presence is the true cause of esthetic enjoyment. The mere sight of the maimed, the incomplete, the thing that lacks the perfection of its kind, is disagreeable. If parts are disproportioned, if a man has one arm shorter than the other, or too large a nose, his appearance is disagreeable to the sight. And even if there is integrity and harmony of parts, the object may leave us unmoved, unless these elements are conspicuous, unless they, as it were, shine out. Perfection and proportion are pleasing to the mind, and, if they are notable, that is if the object has the element of *splendor* or *claritas,* they will give us the pleasure which we call esthetic. On the other hand, where these elements are lacking esthetic pleasure is not experienced. The conclusion, then, that these conditions on the part of the object constitute the ontological reality of beauty, would seem to be justified.

Aristotle on Beauty

Aristotle, speaking of beauty incidentally in the *Poetics* (vii, 8), tells us that it consists in "magnitude and order." Elsewhere *(Metaph.* xii, 3) he says: "Of the beautiful the greatest forms are order and symmetry and the definite." And in the *Rhetoric* (i, 9), speaking now of the beauty of virtue, he tells us that this is beautiful "which, being good, is pleasant, simply because it is

good." From these citations it is clear enough that Aristotle did not look upon beauty as something merely subjective, but regarded it as dependent on objective conditions. Among these conditions he does not enumerate the "perfection" and "claritas" required by St. Thomas, but it would not be unreasonable to claim that these conditions are implied in his "magnitude" and "order."

Other Definitions of the Beautiful

The other definition given by St. Thomas of the beautiful as, "that which pleases on being seen" *(id quod visum placet),* is, as was noted above, a definition by effects only. The definition, *Splendor veri,* "the splendor of the true," attributed, though incorrectly, to Plato and Plotinus, would seem to apply only to beauty of intellect. Cousin's definition, "Unity in variety," does undoubtedly give objective conditions which can be reconciled with the "order" and "proportion" of Aristotle and St. Thomas. But, as every finite substance can be looked upon as a "unity in difference," the definition does not account clearly enough for the ground of the distinction we make when we call some things beautiful. The definition of Jouffroy, "The invisible manifested in the visible," and that of Hegel, "the sensible manifestation of the Idea" *(Das sinnliche Scheinen der Idee),* insist rather on the external expression of the beautiful; they have defined the manifestation of the beautiful rather than the thing, beauty, itself.

> "Beauty is essentially an object of the intelligence, for that which *knows* in the full sense of the word is intelligence which alone is open to the infinity of Being. The birthplace of beauty is in the intellectual world wherefrom it comes down. But in a certain manner it also falls under the grasp of the senses, in the measure with which with man they serve the intelligence, and are themselves capable of

> enjoying knowledge: 'among all the senses it is only with sight and hearing that beauty has relations, because these two senses are above others *maxime connoscitivi* "most knowledgeable.'" . . . Thus man may doubtless enjoy purely intellectual beauty, but the beauty *connatural* to man is that which touches the understanding with delight through the senses and their intuition" (Jacques Maritain: *The Philosophy of Art).*

Is Beauty a Transcendental Attribute?

St. Thomas did not include beauty in his enumeration of the transcendentals (see page 64) and the older Scholastics did not treat it as a transcendental, at least not explicitly. Still we must note that St. Thomas holds that the distinction between the beautiful and the good is only a logical distinction. "The beautiful is the same as the good, and they differ in aspect only" *(Summa Theologica,* I-II, q. 27, a. 1, ad 3). And in another place in the *Summa* (I, q. 5, a. 4, ad 1um) he tells us:

> "Beauty and goodness in a thing are identical fundamentally; for they are based on the same thing, namely, the form ; and consequently goodness is praised as beauty. But they differ logically, for goodness properly relates to the appetite (goodness being that which all things desire) ; and therefore it has the aspect of an end (the appetite being a kind of movement towards a thing). On the other hand beauty relates to the cognitive faculty; for beautiful things are those which please when seen. Now, since knowledge is by assimilation, and similarity relates to form, beauty belongs to the nature of a formal cause."

This real identity of the beautiful with the good must lead us, therefore, to recognize the beautiful as coextensive also with being. If, then, there is any ground for our making a distinction between things and saying

that only some things are beautiful, it must be because the perfection which St. Thomas requires for beauty may be lacking in a being that has not as yet attained its end, or because, on account of the limitation of our intuition, the perfection and proportion of a being do not "shine out" for us.

> "Everything from the grain of sand up to man and the angel is beautiful in a strict metaphysical sense. Being, perfection, beauty, are connected terms, even to the extent of being inseparable. Whatever is, is beautiful by the very fact of being and in the measure of its being. God, pure and absolute being, is beauty without alloy. Every creature, being limited in its being, is proportionally limited in its beauty; but it could not lose all its beauty without ceasing to be. In as much as it has being, it has beauty in the same measure. This is because in the same measure it is a reflection of the Being without limit, the infinite Beauty, the universal exemplary cause, God. But this strictness of metaphysical meaning is one thing, and the practical appreciation of beauty is another. We do not recognize beauty except where it so dominates as to affect our minds, where the divine image is so clear as to flash out before our eyes. Within the realm of experience proportioned to our nature, our experience tells us without hesitation that not everything is beautiful." (G. Longhaye, S. J., quoted in Sortais: *Traité de Philosophie,* II, 470).

Summary

Of the six transcendental notions, being, thing, something, one, good and true, the last three are attributes of being. St. Thomas shows the relations of these notions to being. Unity, meaning undividedness, adds no new reality to being, but is a transcendental attribute of being. This undividedness may be metaphysical, physical, moral

logical, or artificial. Multitude is the opposite of unity and is potentially infinite; number is multitude measured by unity. The notions of identity and sameness are associated with unity; and distinction, the opposite of identity, may be a real difference between things, or a difference which the mind makes with or without a foundation in reality. Ontological truth is the conformity of being to mind, and, supposing the existence of an all-knowing mind, all being has this conformity. But truth is not any addition of reality to being, but only a relation of being to mind. Things get their truth from the Divine mind which is the measure of all things; but the human mind must be conformed to things to have truth. Truth of things is absolute, and not merely relative to our minds. Things are called false which can appear other than they are. Goodness is suitableness of a thing to self or other, and is divided into the befitting good, the useful good, and the pleasurable good. It does not add any reality to being, but is an attribute of all being, because all being is suitable to something. There are degrees in goodness, but no being can be entirely lacking in goodness, or merely evil. Evil is the privation of some reality due to a being; and its cause is some being and, therefore, some good; and consequently there can be no Principle of Evil. The reconciliation of the existence of evil with the goodness of God is taken up in connection with Providence.

Beauty, though akin to goodness, is not entirely identical with it. Beauty is not purely subjective, but has an objective element, and the interest of Metaphysics in the subject is in the discovery of this objective element. St. Thomas makes it consist in the integrity, proportion and clarity of the goodness of being. And since beauty, according to St. Thomas, is not a different reality from goodness, it must also be recognized as a transcendental attribute of being.

Propositions to be Explained and Established

1. The unity of being is not a reality distinct from being itself.
2. Unit)' is a transcendental attribute of being.
3. We are justified in asserting a certain identity in things in spite of the changes in those things.
4. Ontological truth consists in the conformity of being to mind.
5. Truth is a transcendental attribute of being.
6. The human mind is not the measure of the truth of things.
7. The falseness of things, due to their lack of conformity to fallible minds, is in some measure due to the things themselves.
8. Goodness is not a reality distinct from being.
9. Goodness is a transcendental attribute of being,
10. Evil is the lack of good which is natural to a being and which the being ought to have.
11. There cannot be anything that is merely evil.

Suggestions for Further Study

1. The meaning of St. Augustine's definition of truth: *That is true which is.* (Cf. St. Augustine: *Soliloquium,* II, 5.)
2. The meaning of the statement of St. Thomas: *Everything, in so far as it has being, so far is it knowable. (Summa Theologica,* I, q. 16, a. 3, resp.)
3. The Principle of Individuation. (Cf. Coffey: *Ontology,* 123 sq.)
4. The Causes of Evil. (Cf. Coffey: *Ontology,* 182 sq.)

References

On Unity and Distinction

Rickaby: *General Metaphysics,* 92-109.
Coffey: *Ontology,* 114-157.

Mercier: *Manual,* I, 443-459.
St. Thomas: *Summa Theologica,* I, q. 11, a. 1, a. 2.
O'Neil: *Cosmology,* I, 162-166.

On Truth

Rickaby: *General Metaphysics,* 109-121.
Coffey: *Ontology,* 158-166.
Mercier: *Manual,* I, 459-463.
St Thomas: *Summa Theologica,* I, q. 16, a. 1-8; I, q. 17, a. 1.

On Goodness

Rickaby: *General Metaphysics,* 121-157.
Coffey: *Ontology,* 167-189.
Mercier: *Manual,* 1,463-472.
St. Thomas: *Summa Theologica,* I, q. 5, a. 1-6.

On the Beautiful

Rother: *Beauty.*
Coffey: *Ontology,* 192-206.
Mercier: *Manual,* I, 564-670.

CHAPTER VI

SUBSTANCE AND ACCIDENT

1. The Meaning of Substance and Accident

Division of Being Into Substance and Accident

All being can be divided into being which exists in itself and being which exists in another. This is a complete division, and all being must belong to one or the other part. A being which exists in itself is said to exist *per se,* and is called substance; a being which exists in another is said to exist *in alio* and is called accident. In this connection the expressions, *"per se,"* "in itself," and *"in alio,"* "in another," are used in a purely technical sense, and to avoid confusion and misunderstanding they must be taken strictly in this technical sense. As, however, the expression, *"per se,"* is most readily explained as a contrast to *"in alio,"* it will be better to begin with a consideration of the meaning of this latter expression.

Meaning of "Being in Alio"

And first of all it will be necessary to consider what being in another does not mean in this connection. It does not mean being in something as a thing contained is in that which contains it, as water, for example, is contained in a glass; nor has it the meaning of being in something as a body is said to be in space. Again the meaning is not that which we have in mind when we speak of a part of a thing as being in the whole thing, as an arm or hand is said to be in the body. Finally it does not mean being in another in the sense in which St. Paul says we are in God: "In Him we live and move and are," where "being in" signifies being upheld in existence

by His sustaining and omnipresent power. The images which these expressions suggest to our minds will mislead us if we employ them in thinking of accident and the way in which it is said to exist in another. We must not think of the preposition, "in," in this connection as indicating place or any other spatial relation. There remains, however, the way of existence in another which is called *inherence.* To inhere means that a thing has its being in another as a modification of that other, and, therefore, as an actualization of some potentiality which that other has to be modified. Thus a fold in this paper would be said to inhere in the paper. The fold is not anything apart from the paper, but has its existence merely as a modification of the paper. The paper could be folded, and the fold actualizes this potentiality. This is the mode of existence in another which is proper to the kind of being we call accident. That of which it is the accident or the modification is called the subject of inhesion, and that which exists in another as an accident does, is said to exist in another as in a subject of inhesion.

Meaning of "Being Per Se"

Now the existence *per se,* in itself, which is attributed to substance, is the opposite of this mode of inherence which is characteristic of the accident. To exist *per se* means, therefore, not to exist in anything else as in a subject of inhesion. The substance does not require to exist in any subject in order to have actual existence. Its reality is its own; it is not the reality of anything else, as a modification or an accident is. Therefore it can exist without having to be in any subject as a modification of that subject or as an actualization of any potentiality of that subject. This is the kind of existence in itself which is proper to the substance. It must be observed, then, that this kind of existence in itself does not exclude the other forms of existence in another

which were mentioned above. Substance may be in another as the contained in a container; it may be in another as a part in an aggregation or in an artificial whole, as a man is in a crowd, or a wheel is in a machine; and it is in God in the sense of being sustained by Him as First Cause. Nor must we think of existence *per se* as giving to substance any more independence than is required for independence of a subject of inhesion. A substance is not necessarily independent in any other sense; but rather all finite substance admits dependence on a cause. In Scholastic philosophy the being which is independent of all else is said to exist of itself, *a se,* in contrast with dependent beings which are said to exist *ab alio.*

The Essence of Substance

St. Thomas insists (*Summa Theologica,* I, q. 3, a. 5, ad 1um) that to exist *per se* is not the essence of substance, but rather a requirement of the essense of substance. Therefore he tells us (*Quodlib.* IX, a. 5, ad 2ura) that it is not a true definition of substance to say that substance is that which exists in itself (for the definition should express the essence), but only an explanation which is equivalent to saying that substance is being whose essence requires to exist in itself.

Substance Considered Absolutely and Relatively

To consider substance as being whose essence requires to exist in itself is to take substance absolutely, as it is in itself. But it may also be taken relatively, with reference to the other realities that have their existence in it, and then it has the character of subject for the modifications that exist in it. But we must remember that the idea of being substrate or subject for accidental modifications does not express anything that is essential to substance, but only the relation of substance to its accidents, if it has any. There is nothing in the nature of

substance itself to require it to have accidental modifications for which it will be the substrate. Finite substances will, of course, have potentialities, the actualizations of which will be accidental modifications inhering in the substance as subject. But this is because they are finite, not because they are substances. Infinite substance has not potentialities and consequently cannot have accidental modifications and cannot be the subject of accidents.

Substance as Substrate

From our experience of reality we get to know substance first as the substrate of accidents, as that which underlies the changing qualities through which the concrete reality of our experience impresses itself on our senses. Consequently we are likely to look upon substance as if it were some kind of a hidden core of reality concealed under the appearances; as something permanent in contrast with the modifications that come and go; as something static and unchanging. But all these are misapprehensions, and hurtful misapprehensions at that, for they have led to no end of misunderstandings in the discussion of this subject. But we have no reason to look upon substance as anything hidden. It is not, it is true, what Scholastic philosophy calls, *sensibile per se,* i. c., it is not that which the senses are adapted to perceive in the concrete reality. But in the terms of the same philosophy it is *sensibile per accidens,* i. e., in the concrete object of our experience it is bound up with the *sensibile per se,* or proper object of the sense, and is revealed to us through that proper object. In other words the modifications of substance which appeal to certain of our senses, are also manifestations of the substance to us as well as modifications of the substance. Again, while the substance may be looked upon as relatively permanent compared with the modifications of substance, still permanence is not of the essence of substance, and a being that required to exist in itself, even

though it existed but for an instant, would be as truly a substance as if the duration of its existence were indefinitely prolonged. Finally substance in the concrete is not to be thought of as static and unchanging. A reference to the explanation of change in a former chapter will show that it is the whole being that changes, not the new modification. When a new modification appears in a substance, the substance has changed and the new modification is the evidence of the change. An example of the building up of the idea of substance out of this notion of permanence may be seen in Herbert Spencer, who identifies existence with persistence, and tells us that "that which persists in spite of all changes, and maintains the unity of the aggregate, in defiance of all attempts to divide it, is that of which existence in the full sense of the word must be predicated—that which must be postulated as the substance of mind in contrast to the varying forms it assumes." (*Principles of Psychology,* pt. II. c. i.) He further tells us that it is impossible to know this substance of mind. So, too, in Hegel, the Permanent is the substance or the background behind the seeming of appearance. (See: Rickaby, *General Metaphysics,* 222.)

First Substance and Second Substance

Scholastic philosophy, following Aristotle, distinguishes first substance (ousia prote) from second substance (ousia deutera). First substance is the concrete individual thing existing in itself and not capable of being in another or of being predicted of another. Second substance is the universal, which, as a universal, does not exist in another or in many, but can be predicated of many.

Incomplete Substance

In treating later of the composition of material substances, we shall have to speak of the constitutive elements of such substance. These constituents

arc not themselves substances, at least not completely so, nor are they accidents; but because they are the essential constituent parts of material substance, they are called substantial principles or incomplete substances. The division of substance into material substance or body, and immaterial substance or soul, will be noted when these subjects come up for consideration.

Substance as Applied to God

Can we divide substance into finite and infinite substance? To do so would seem to be to consider substance as a genus having under it one species, finite being, and one individual, Infinite Being, God. Now the species embraced under any genus share in common that which is expressed by the generic notion, as brute and man falling under the genus animal, share in common what is expressed by the generic notion, animal nature. But it is not accurate to think of anything common between God and the finite. We cannot think of "being in itself" as if it were a kind of common nature participated in by God and creatures. Hence the conclusion to which we are forced is that we cannot regard substance as a generic notion applying to God and creatures. St. Thomas says (*De Potent.*, q. 7, a. 3, ad 4um) that the definition of substance does not apply to God; for substance is being whose essence requires to exist not in another. Now in God essence and existence are one and the same thing. Therefore God does not come under the genus, substance, but is rather above all substance. Yet if we remember that ideas derived from created things are predicated of God analogically, we can say: God is substance, because He exists in Himself. A more accurate statement of the being of God is to say that God is "of Himself," *"a se."* Everything that is included in being in one's self, and much more, is embraced under the concept of "being of one's self." It means, not only

not existing in another as in a subject, but also freedom from all dependence whatever, as well as complete possession of being.

2. The Validity of the Notion of Substance

The Existence of Substance

That substance in the sense in which it has been explained must exist, would seem to be self-evident. Yet the existence of substance has been denied, and the assumption of much modern thinking is that, whether there is anything substantial in reality or not, at least the Scholastic idea of substance has been disposed of for good. In ancient times Heraclitus denied substance, not expressly perhaps, but by implication, when he contended that "becoming" is the only reality. In modern times the discrediting of the idea of substance began with Locke and proceeded through Hume and Mill to its place of importance in so much of recent philosophy. Yet the claim of the validity of the idea of substance as held in Scholastic philosophy rests on very simple and evident reasoning, which has never been refuted by those who oppose the existence of substance.

Validity of the Idea of Substance

The simplest form of this reasoning is the following: If anything exists at all, something must exist in itself; for all things cannot be found existing in something else.

The validity of the idea of substance can also be shown by reasoning from our experience. And first from our external experience:

Material motion is a reality presented to us in our experience. That it is a reality is evident from the fact of the difference that such motion makes when it is present. But this motion is not presented to us merely as motion, but always as the motion of something. Now this something of which the motion is a real modification,

either exists in itself, and is therefore substance, or it exists as a modification of another being. The question then arises in regard to this other thing: does it exist in itself or in something else? and so the process of inquiry must go on until we come to something that exists in itself.

Secondly from our internal experience:

Our consciousness makes us aware of our thoughts which are real things; never, however, of our thoughts by themselves, existing in a detached state, as it were, but always of ourselves having those thoughts. That this interpretation of our internal experience is the true one, is evident from the necessity we are under of expressing this internal experience by a personal form of the verb: I think, I feel, I will. We cannot truly report the experience of internal activity without stating the subject acting as well as the activity itself as part of the experience. To say: Thought is going on, or thinking is occurring, is not to report my own experience.

Therefore, as a conclusion to this reasoning, the subject modified as well as the modification is given to us in experience, and consequently the idea of substance represents something that belongs to reality, or, in other words, the idea of substance is valid.

So inevitable is the conclusion that something existing in itself must be admitted to explain our experience, that those who are not willing to admit substance usually end up by substantializing the phenomena or accidents. When Professor James says that the present thought is the only thinker, he is satisfying himself that he has got rid of the mind or soul as a substantial thing, but in reality he is making a substance of the thought.

Criticism of Some Definitions of Substance

For Locke, substance was the "unknown substrate of accidents." This definition really arises from his false interpretation of experience, as if we knew only qualities

or accidents by experience, and brought in the idea of substance merely because we could not imagine accidents existing without something to inhere in. He always maintained that he did not deny that substance had reality. He claimed that he called in question only the idea of substance, not its reality. But if our idea is questionable, if it does not correspond with any reality, then we should have no right to assert that real substance existed at all. Locke was neither very clear nor very consistent in his thinking and only timidly sceptical. Hume, who was a bolder sceptic, though hardly a more clear or consistent thinker, drew the conclusion which Locke protested against and asserted that: "The idea of substance is nothing but a collection of simple ideas that are united by the imagination and have a particular name assigned to them." There is no reality, then, that corresponds to the name of substance except the reality of this collection of our simple ideas or impressions, for according to Hume we do not perceive either substance or accidents, but only our own impressions. Hume, however, is not consistent in his scepticism, for elsewhere he will be found admitting that our impressions are caused by bodies, which is, of course, admitting the existence of material substance. In regard to the human mind Hume maintained that it is only a "heap or collection of different perceptions united together by certain relations, and supposed, though falsely, to be endowed with simplicity and identity." Mill maintained that matter is only "a permanent possibility of sensations," and that the human mind is no more than a series of feelings and possibilities of feelings which is aware of itself as a series. Professor James rightly contends that such a scries has in it no reality except the presently existing member of the series, and rejected the idea of a series which is mostly unreal, being aware of itself as a series. But he has really nothing better to offer, and to avoid admitting substantial mind he can only bring in the

present thought as the thinker. The straits to which these critics of substance are reduced in their efforts to get along without the idea of substance is an additional argument in favor of the validity of the idea.

Pantheistic Definitions of Substance

Descartes defined substance as "that which so exists as to need nothing else for its existence." As he himself admitted, this definition would apply only to the one independent substance, God. He contended, nevertheless, that other beings besides God could be called substances in a secondary sense. (See: Turner, *History of Philosophy,* 453, 454.) Descartes had no intention of accepting the obvious inference from his definition, that substance is only one, for this would be Pantheism. But Spinoza, following Descartes' idea of substance, defined it as: "That which is in itself and is conceived by itself; in other words, that the concept of which docs not need the concept of anything else to aid its formation." ** Though this definition may not seem very clear, we know the meaning attached to it by its author from the inferences he drew from it. According to Spinoza substance is one and infinite, and his system supplies the foundation for modern Pantheism. Much modern thought which does not deny the idea of substance altogether or treat it as entirely unknowable, regards substance as a more or less vague background of reality, as the one ultimate reality of which the apparently many things of our experience are but the modifications and manifestations. This is a prevailing form of Monism, which may be either Pantheism or mere materialism according to the bent of the individual thinker. This matter will be taken up later in connection with the subject of Pantheism, but for the present it will be sufficient to observe that the reasoning from experience which assures us of

♦ *"The Principles of Philosophy,"* Part I, LI.
♦♦ *Ethics,* Part I; Definition III.

the validity of the idea of substance, shows us also that substance is not one, but many; that there are many subjects, not one, for the modifications or accidents with which our experience deals.

3. The Nature of Accidents—Their Distinction and Separability

The Reality of Accidents

Accidents, as beings whose essence requires that they should exist in another, were looked upon by Aristotle as *not-being simply,* that is, as being only in a qualified sense (me onta, os apios eipein). In Scholastic language they are spoken of as *entia secundum quid,* beings with a diminished kind of being; *ens entis,* the being of a being, rather than *ens,* being. The accident in the subject is the modification of the subject; its reality is the subject's modification. In virtue of the inherence of the accident the subject, substance, has actuality in a new way. This is not denying that accidents are real. They have their reality, but they have it in the subject in which they inhere, and it is a reality, once potential in the subject, but now actual there because of their presence. In Scholastic philosophy that is being in the full sense which has its own reality in itself, and that is only substance. Any other reality is being only in an analogical sense. Insistence on the right understanding of the reality of the accident is necessary, because in treating of accident as a mode of being there is always danger of substantializing it, of regarding it as a kind of minor substance, unless we keep constantly in mind that whatever reality an accident may have, it has no reality in itself, but all its reality in another. At the same time we must recall the caution of St. Thomas, that actual inherence is not of the essence of an accident, but only the natural requirement to inhere. (*Quodlib.* IX, a. 5, ad 2"").

The Cause of Accidents

Substance is said to be the cause of accidents in several senses:

It is the material cause, in the sense that in it is the potentiality of which the accident is the actuality; it is that in which the accident has its being and out of the potentiality of which the accident is said to be educed.

It is the final cause, for accidents exist on account of substance, for the sake of actualizing potentialities of substance. Apart from substance accident would have no purpose, for its whole purpose is to be in substance as its modification.

Sometimes substance is the efficient cause of its accidents, as is the case in vital actions, which the living substance produces, e. g., when the mind produces its own thoughts.

Proof of the Reality of Accidents

Concerning the reality of accidents there can hardly be any question. Even those who deny the reality of substance must admit the reality of accidents if they admit any reality at all. Besides experience surely shows us changes taking place in things which are not substantial changes; changes, for instance, from activity to inactivity, or changes in shape. These changes are certainly real, for they do make a real difference in the thing changed. Yet they do not make the thing a new substance. They are not, therefore, substantial changes, but merely changes in accidental modifications; but since they are real changes, the modifications which account for them must also be real.

Distinction Between Substance and Accident

Now, if we admit that substance is real and accident is real, the question as to the nature of the distinction which is to be recognized between substance and accident presents itself. Is this a real distinction or only a mental

one? Insistence on the fact that accident has its reality in substance may seem to lead to an identification of accident with substance, and on the other hand, if we grant a real distinction, we may seem to be giving to accident a sort of being in itself. Now while the accident is actually inhering in the substance, its being is the being of the substance, for it is a modification of the substance, yet not in such a way that its being makes up the substance. Experience shows that it is possible for all that is substantial in a thing to remain after the accident that was once inhering in it has been removed and replaced by another. Of course in a change of accident the substance is changed, but not substantially. It is still the same substance in all the essentials of its substance. The change is one we denominate accidental, a change in accidental modifications only. Now if two realities—in this case substance and accident—are separable in the sense that one of them at least can remain in existence when the other is removed, there is a real distinction between them. But this condition holds good for the case of substance and accident; therefore there is a real distinction between them, as proved by the test of separability.

Substance Not Made Up of Accidents

As a consequence of this we can hold that change can be real without being substantial. It follows further that the substance is not made up of its accidents (St Thomas: *QQ. Disp. De Spirit. Creat.,* a. 11, ad 1uro); that the substance of a thing is something other than the accidents that modify it. Thought is a modification of mind; yet we cannot say with Descartes that thought is the essence of spiritual substance, or that extension is the essence of body, or material substance, although it is a modification of material substance and naturally always found in it.

Separate Existence of Accidents

Therefore, too, supposing an accident to have had its reality in a substance, it is not unthinkable that this reality of the accident should be separated from the substance, and while still remaining a reality with a natural requirement of existing in another, should be kept in existence supernaturally by divine power. The explanation of this possibility of the separate existence of accidents, as given by St. Thomas, is summarized as follows (*Quodlib.*, IX, a. 5, sed contra; et ad 2"", et 3um):

In any effect produced by a second cause the influence of the first cause is more important and more far-reaching than the influence of the second cause. Now the existence of accidents depends on substance as the second cause, and it is in accordance with the natural order of the universe that the influence of the first cause should not be exerted in regard to any such effects except when the influence of the second cause is exerted. But supposing the existence of a supernatural order, it is not impossible that the influence of the first cause should be exerted in the production of an effect without any operation on the part of the second cause, or after the operation of the second cause has ceased. In this way the accidents would be thought of as continued in existence by the influence of the first cause, which ordinarily would co-operate with the second cause, but which can, absolutely speaking, act without such co-operation. Nor can it be said that the accident is thereby made a substance; for while it is not actually inhering in any substance, it still retains its natural requirement to inhere; and merely existing with this natural requirement unfulfilled docs not make it a substance. And if it be asked how it is possible that the same effects are produced in the presence of these separately existing accidents as

would be produced by the subject from which they are separated, if it were there, the answer is, that, as they are enabled by the influence of the first cause to exist separately, so they are enabled by the same influence to act without the influence of the substance.

Reasons for Considering the Separate Existence of Accidents

This whole question of the possibility of the separate existence of accidents would be one of mere speculation without any practical interest, were it not for certain instances which revealed religion brings to our notice. Now a philosophy ought to take account of all facts however known. Not that it will be able to explain all the facts, but that our thinking even in regard to facts which we cannot wholly explain may be consistent with our system of philosophy. In the Eucharist we have an instance of the appearances of bread and wine remaining though nothing of the substance of bread and wine is there. Of course, it would be possible to say that God could by a miracle cause these appearances to remain when there is no natural cause there to account for them. But it would be against the whole spirit of Scholastic philosophy to be satisfied with such an explanation. In other cases appearances are accounted for by the presence of accidents modifying the substance that appears. Therefore to be consistent the appearances must be accounted for in the same manner here. But for the accidents to be the explanation of the appearances in the Eucharist, they must exist without substance to sustain them. Therefore it is the task of Metaphysics in the case to offer an explanation of such a possibility. If it is objected that, on the same line of reasoning, accidents are accounted for in other cases

by the presence of substance and so they should be accounted for here, the answer must be that in this case we know by faith that the substance is absent; but faith does not tell us anything about the presence or absence of the accidents.

4. Nature and Person

Substance as Subject

The being which we call substance because it exists in itself, we call nature inasmuch as we regard it as the ultimate principle from which all the activities of the being proceed. All the active potencies of a being, through which it is enabled to exercise its varied activities, are rooted in this nature; and hence, while they are the immediate principles each of its own special activity, nature is the ultimate principle of all. All actions are attributed to beings as wholes. They are considered as belonging, not to the special potency by which they are exercised, but to the whole being. Thus, though to see is the special function of the sense of sight, and to hear is the special function of the sense of hearing, yet the action is attributed, not to the sense, but to the being as a whole to which the sense belongs. The being as subject to which all activities arc referred is called a *suppositum* (which may l>e translated, subsisting thing) or *hypostasis*. (Hypostasis is of Greek derivation and originally meant the same as substance, as its etymology will show; but it has been assigned the technical sense here given.) To be a *suppositum* or *hypostasis* a thing must be a complete substance which is a whole in itself and which is complete as to its nature, and it must not be a part of anything else or belong to anything else. It is such a being only that is the subject to which actions are referred. If the hypostasis is also a rational or intellectual being, it is called a person.

Definition of Person

Person is therefore defined as: An individual rational (intellectual) substance which is complete in itself and *sui juris*. By saying that it is complete in itself is meant that it is possessed of all that is essential to it as a substance and as a principle of action or nature. By saying it is *sui juris* is meant that it belongs to itself, is self-possessed or self-controlled. It is not only *in itself,* as all substance is, but in a special sense it is *for itself.* Herein lies a special point of distinction between a *person* and a *thing,* that a person is for himself and for his own purposes, and is not a mere utility to be subordinated to the purposes of some other being; while a thing, though also complete in itself, is not for itself, but may be possessed by a person and consumed for his utility. To meet the requirements of being in and for itself a being must be possessed of a rational or intellectual nature, for only such a being can be self-possessed in the full sense and self-controlled, for such a being alone is conscious of its purpose.

Distinction of Person and Nature

From our merely natural experience we should be led to conclude that an intellectual substance is always a person if it is complete as a substance and a nature. We have no examples in natural experience of intellectual substances that are possessed by something else or communicated to anything else. (Examples of "possession" may seem to make an exception to this statement. But such possession does not seem to involve an entire or permanent loss of control and consequently neither of personality.) But revealed religion furnishes us the example of an intellectual nature, the human nature of Christ, as possessed by a Divine Person, and therefore as not having its own natural human personality to correspond with the human nature. Our philosophy must, then, take account of this fact in forming its idea of

what personality is, and must therefore recognize that to be an intellectual nature is not enough, unless this nature is self-possessed and not communicated to another.

Personality

That which constitutes an intellectual being a person we call personality. Personality must therefore mean, an intellectual being's possession of itself. Though it is something positive, and does not consist in the mere fact of not being possessed by another, yet it does not add anything to the intellectual nature; for the intellectual nature would of itself naturally require to be a person if it were not assumed by another. "The human nature of Christ is not of itself a person, not because of anything it has lost, but because of something it has gained." (Rickaby, *General Metaphysics,* 283.)

Personality Does Not Imply Limitation

There is nothing in the definition of person to indicate that personality contains or implies any limitation. Finite persons are indeed limited, but that is altogether aside from the matter of their personality. Therefore there is no reason why personality, as it has been explained, should not be attributed to God. There is no reason why personality should not be infinite. Rather there is every reason why it should be attributed to the Infinite. For personality is the highest distinction of the finite being. In its being in and for self, in its self-possession and self-rule, the finite being that is a person comes nearest of all finite things to the independence of the Infinite.

Those who explain personality in some other way may find difficulty in applying their idea of personality to an infinite being. But that is due to their interpretation of personality, not to anything that is necessarily involved in the idea of personality itself.

Other Explanations of Personality

Since the time of Locke many attempts have been made to explain personality in terms of consciousness. Locke himself held that personality is constituted by active consciousness. Now while it is true that it is through consciousness that we recognize ourselves as persons, it is not true that we must be actively conscious to be or to remain persons. Active consciousness is not perfectly continuous, but is subject to interruptions such as sleep or pathological conditions may cause. Besides, consciousness, whether active or not, cannot account even for our recognition of ourselves as persons without the aid of memory, and memory cannot be explained without bringing in some permanent substantial principle of mental activity.

Multiple Personality

The discussion of so-called double or multiple personality to be found in modern psychology rests on the supposition that personality is based on consciousness. The discussion arises out of certain abnormal cases in which the consciousness seems to be split up into two or more streams. These several streams of consciousness are more or less distinct from one another, but not entirely so. For there is no case on record in which there is not some common ground in both consciousnesses, such as for instance, the meaning of words in some language, the remembrance of persons, places, etc. No light has really been thrown on the subject of personality by any of the cases that have been studied.

Summary

Being is divided into being which exists in itself and being which exists in another. In this division "existing in another" means "having its reality in another as a modification of that other." "Existing

in itself" means "having its reality in itself and not in another as a modification of that other." The essence of substance is that it should require to exist in itself. Considered relatively to its modifications substance is substrate, and as such is called in Scholastic philosophy a *sensibile per accidens.* Permanence or unchangeableness in existence is not of the essence or substance. First substance is the concrete individual substance; second substance is the abstract universal. Essential component parts of substance are called incomplete substances or substantial principles. The notion of substance may be applied to God analogically. The validity of the notion of substance was denied by Hume and many modern philosophers following his lead, but it is proved from evident reasoning that if anything exists at all, something must exist in itself. Substance was defined by Descartes in a way to suggest the pantheism of Spinoza. Accidents, though they have their reality in substance, are yet really distinct from substance, and some of them, at least could by divine intervention exist apart from substance. Nature is substance considered as the ultimate principle of action. Person is a complete intellectual nature which is self-ruling. Personality, though something positive, does not add any reality to substance. It does not imply any limitation in the personal being. It is not constituted by active consciousness.

Propositions to be Explained and Established

1. The division of being into being *per se* and being *in alio* is a complete division of being.
2. To exist *per se* does not mean to exist with entire independence.
3. Though substance is the substrate of such accidents as exist in it, yet to be substrate or subject does not belong to the essence of substance.

4. Substance is a *sensibile per accidens.*
5. If anything exists, substance must exist
6. The assertion that substance is the *unknown* substrate of accidents is not based on a correct interpretation of experience.?
7. The idea of substance is not a collection of simple ideas.
8. Descartes' definition of substance leads logically to Pantheism.
9. Accidents are real, though they have their reality in substance.
10. The occurrence of accidental change shows that accidents are really distinct from substance.
11. To be a person a rational nature must be self-possessed.
12. There is no limitation implied in the idea of personality.

Points for Further Study

1. Locke on Personality.
   Cf. Rickaby: *General Metaphysics,* 283-291.
2. Double and Multiple Personality.
   Cf. Maher: *Psychology,* 487-492.
3. The Reality of Accidents.
   Cf. Coffey: *Ontology,* 240-245.
4. The Unity of the Concrete Substance.
   Cf. Coffey: *Ontology,* 246-251.

References

On the Meaning of Substance and Accident

Rickaby: *General Metaphysics,* 221-267.
Coffey: *Ontology,* 207-240.
Mercier: *Manual,* 1,478-488.
St. Thomas: *Summa Theologica,* I, q. 29, a. 1 and 2.
Perrier: *The Revival of Scholastic Philosophy,* 52-68.
O'Neil: *Cosmology,* I, 173-178.

On the Distinction and Separability of Accidents

Rickaby: *General Metaphysics, 267-270.*
Coffey: *Ontology,* 240-250.
Mercier: *Manual,* 1,489-492.
O'Neil: *Cosmology,* I, 168-173.

On Nature and Person

Rickaby: *General Metaphysics,* 279-293.
Coffey: *Ontology,* 252-284.
Naldi: *The New Scholasticism,* I, 65-77.
Pyne: *The Mind,* 160-162.

CHAPTER VII

QUANTITY—SPACE—TIME

1. Extension of Bodies and Its Relation to the Parts of the Body and the Presence of the Body in Space

A material substance (a body) is known to us through certain modifications through which it acts on our senses. It is resisting, of a certain form or shape, colored, etc. But for the body to have these modifications it is necessary that it should be extended. If it were not extended, it would not offer resistance, would not have any definite shape or color. Therefore we must understand all these modifications as presupposing extension in a body and as inhering in the body as in an extended thing. Now extension means the presence of a body in space in such a way that it occupies the space by having its parts so disposed in space that part is outside of part in relation to the space occupied. This is the natural mode of presence of a body in space, and is called *circumscriptive,* to distinguish it from the *definitive* presence in space of a spiritual reality, which is indeed in the space in which it is active, but is not spread out in the space, not having parts to be disposed throughout the space. But extension does not give to the body the parts which are to be disposed in space, but rather presupposes the existence of these parts in the body. On the supposition that the body was not extended in space, it would still have its parts and these parts would still be different realities one from another, though they would not lie outside one another in relation to the space in which the body was. Of course we must not think of such parts

as being actually defined in the body by definite boundaries. Any definite marking out of parts presupposes actual extension. But the body is not made up of parts because it is extended; rather it is the fact that it has parts that is the ultimate reason for its natural requirement of extension. This possession of parts distinct from one another, though not necessarily outside one another, is called intrinsic extension; extrinsic extension, which generally goes under the name of extension simply, is the position of parts outside of parts in a space. (Harper: *Metaphysics of the Schools,* II, 353.) Intrinsic extension corresponds to the idea of *mass* in physics, while extrinsic extension corresponds to the idea of *volume.* (See: Mercier: *Manual of Modern Scholastic Phlisophy,* I, 91.)

Extension Distinct from Corporeal Substance

Extension is, therefore, not the essence of corporeal substance, as Descartes affirmed, but rather an accident distinct from substance. Aristotle's argument for upholding this distinction was that the extension is a *sensibile per se,* that is, it is a direct object of sense perception, while substance is a *sensibile per accidens,* perceived, that is, in the concrete object of sense because it is bound up there with the proper and direct object of sense. Now two things that are thus differently known cannot be the same thing, but there must be a real distinction between them.

2. Quantity and Its Formal Effect

The Meaning of Quantity

To the question, why is material substance extended? the answer of Scholastic philosophy is, because it has quantity. Quantity is therefore the accident of material substance in virtue of which the substance requires to be extended. Aristotle (*Metaph.* IV) defined quantity in

the concrete (i. e., substance having quantity) as, that which is divisible into parts included in it, each of which parts is potentially one and a substance. This description of quantity indicates the difference between division into parts according to quantity and division according to essence. Quantitative division is division into parts, each of which is homogeneous with the whole and with the other parts and each one capable of existing separately as a complete substance. Division according to essence is division into essential or constituent parts, which parts are not homogeneous with each other or with the whole and not capable of existing separately as complete substances. If the parts of the concrete quantity are such that adjacent parts have limits that coincide, the quantity is said to be continuous. This is the quantity of a real physical unit. When the limits of adjacent parts do not coincide, the quantity is discrete. This kind of quantity is illustrated by a unity of aggregation, such as a crowd, where each part is a complete unit in itself. When the parts of a continuous quantity are simultaneous, the quantity is dimensive. This is quantity in the strict sense of the term. When the parts exist only successively, we have the kind of quantity that is illustrated by time or movement.

Quantity Distinct from Material Substance

In saying that quantity is an accident of material substance, we mean to say that quantity is a reality distinct from substance. We do not know enough about what constitutes substance of the material kind to be able to give a clear demonstration of this claim on grounds of reason alone. It is held in Scholastic philosophy mainly on theological grounds. In the Eucharist certain effects which result from quantity are found separated from substance, and we cannot explain without the admission of another miracle how these effects can be separated from the substance if quantity itself is not. Thus the

impenetrability of matter follows as a result of quantity; but in the Eucharist the species of bread and wine have impenetrability. Now they could not have the effect of quantity, if quantity itself were not there, unless a special miracle is worked to supply the defect of quantity. But miracles are not to be admitted without neecessity, and there is no necessity for a miracle in this case if it is admitted that quantity is distinct and separable from substance along with its effects, impenetrability, divisibility, etc.

The Formal Effect of Quantity

A material substance which has quantity will be found to have:

1. Parts distinct from parts (intrinsic extension);
2. The requirement that these parts should be placed outside of one another in space (aptitudinal extension);
3. The position of these parts outside of one another in space (actual extrinsic, or local, extension);
4. Impenetrability among its parts and with other material substances;
5. Divisibility into parts, and
6. Measurability.

The nature of quantity will be best indicated to us by determining, if we can, what is the formal effect of quantity, that is, what is the effect which the presence of quantity in a substance will always produce in that substance. In the effects listed above we cannot determine on actual, local extension as the formal effect of quantity; for in the Eucharist the body of Christ has its own quantity without, however, having actual local extension. Therefore also those effects which follow in the list after local extension are excluded, for they are dependent on actual local extension. There will remain, then, only two possible effects: intrinsic extension and aptitudinal extension. Of these, either one would satisfy the requirements of the case. It may be doubted, however, whether

intrinsic extension is an effect of quantity at all. For if a body were supposed to be without quantity, would it not still have parts distinct from parts? It seems possible, at least, that what we have called intrinsic extension is not an effect of quantity at all, but belongs to substance independently of quantity. There would remain, then, only aptitudinal extension as the formal effect of quantity. To say that this is the formal effect of quantity will, therefore, mean that, if a substance has quantity, it will always have the aptitude for actual local extension, and barring special divine intervention, this aptitude will always be fulfilled and the substance will naturally have actual extrinsic or local extension.

3. Space and Place

Since space is co-terminous with material substance and measurable with the same measure, it will be convenient to consider it in connection with the subject of quantity.

Imaginary and Real Space

Space is commonly conceived of after the manner of a container in which material things are contained. Thus we speak of bodies existing in space. Like the bodies themselves space is thought of as extended in three dimensions of length, breadth, and thickness. Real or actual space we have no right to think of as existing beyond the limits of actually existing material things, but beyond the boundaries of actually existing things we can imagine other things existing, and consequently we can imagine further space for these possible things to exist in. Space so conceived is called possible or imaginary space. It has no assignable limits; in other words, it is potentially infinite. But real space is always actually finite, having the same limits as the material universe.

The Nature of Space

Regarding the nature of space there has been much disagreement among philosophers. Kant held that "space and time are pure forms of our intuitions." Space, according to him, is an *a priori* condition of our external experience. It belongs to the subject thinking — to the mind—and not to the objects of our thoughts. The ancient Atomists and in later times Gassendi attributed to space a reality distinct from the reality of the material universe, and thought of this reality of space as being eternal, unproduced and indestructible. The opinion that space is the immensity of God has been attributed to Newton and Fenelon. Descartes identified it with the extension of bodies, and as he made the essence of bodies consist in extension, he therefore identified space with the essence of bodies. These opinions all give too much or too little reality to space. A more reasonable and more intelligible view is that of Suarez, according to whom space is a mental abstraction but with a foundation in reality. He says:

> "In so far as space is apprehended after the fashion of a positive something distinct from bodies, it is, it seems to me, a mental abstraction (ens rationis), but not a mere figment of the intellect like impossible things, but with a foundation in material things, inasmuch as these material things are capable by their extension of constituting space." *{Metaph. Disp.,* Disp. 51, n. 24.)

Space is, therefore, not any reality apart from the reality of the material universe, but the fact that this material universe is extended enables us to consider the extent in the abstract apart from the things extended, and so form our idea of space.

Place

Place was defined by Aristotle as, "The superficies of the containing body considered as immovable and imme-

diately contiguous to the body located." The place of a body is therefore the surface of surrounding bodies in immediate contact with it. This was called the *locus proprius,* "proper place." But we use the word place in a looser sense to indicate the proper place of many bodies together, as when we say, "The chairs and table are in the room." Place so understood is not defined by contiguous surfaces, but by surfaces which include bodies without being in contact with them. This kind of place is called, *locus communis,* "common place."

Presence in Space

When we speak of a body as present in space, we assign it a place and unite it with the place by what is called the contact of quantity *(contactus quantitatis).* In virtue of this contact the body occupies the space contained in the assigned place, and is extended in this space in such a manner that the whole body fills the whole space and a part of the body a corresponding part of the space. The measure of the space is therefore the measure of the body contained in it and vice versa. This is the manner of presence in space that is natural to bodies and is called *circumscriptive.* In regard to a finite spirit "place is predetermined by the body that is the subject of this action, and is only predicable of him in connection with such action." (Harper: *Metaphysics of the Schools,* III, 240.) The finite spirit cannot be everywhere, hence its presence is defined by space, but its contact with space is the *contactus virtutis* (contact of power), that is, the finite spirit is present in the universe where it exercises its power in connection with some part of the universe. The place of that part of the material universe defines the place of the spirit, but the spirit is not extended in the space, nor is it measured by it; but occupies the space in such a way that it is wholly in the whole space and wholly in each part of it.

This mode of presence which is natural to spirits, is called *definitive*.

4. Duration

Successive Duration—Time

Successive quantity is illustrated by the mode of duration which we call time. Any duration must be the perseverance of a being in existence. The distinction between duration and existence is a distinction of reason, for existence does not imply more than present actuality, while duration implies the previous existence of the thing which is existing now.

> "What is time," asks St. Augustine. "If no one asks me, I know; if I try to answer when asked, I do not know. Still I confidently affirm that I know that if nothing passed away, there would be no past time; and if nothing was to come there would be no future time. But the present, if it were always present, would be, not time, but eternity." (*Confessions,* II, 14.)

What Time Is

It is clear, then, that time is not any reality over and above the existence of real things. It is, like space, a creation of the mind, an *ens rationis;* but like space, too, it is not a mere figment of the mind, or an empty form or *a priori* condition of our internal experience, as Kant would have us think; but it has a foundation in the duration of real things. For the fact that the things that are the objects of our external experience, and the activities of our own minds that are the objects of our internal experience, exist successively, is the reason why we can conceive this successive existence apart from the things that so exist, and thus form our idea of time. So conceived, time is said to be abstract, possible, and can be prolonged indefinitely; no limit can be assigned to it,

for no limit can be assigned to the possibility of things than can exist in succession. Real time is the real duration of real things; but of this duration only the indivisible present is ever actual. Hence time has been defined as the flow of the indivisible now. Aristotle defined time as: "The number of movement measured according to its *before* and *after*" Time, then, is the duration of those things only in which there is before and after, i. e., of things that change. It is the measure of the change in things that exist in succession.

Duration Without Succession—Eternity

As duration with succession is time, so duration without succession is eternity. Eternity was defined by Boethius: "Interminabilis vitae tota simul et perfecta possessio." "The complete and perfect possession at once of life without limit." The eternal being possesses all reality always, and therefore the eternal is without beginning, without end, and without succession or change. Only an immutable being can be eternal in this full sense. But eternal is often used in a somewhat loose sense to mean the endless duration of a being which had a beginning and is subject to change. In this sense eternal means everlasting.

Summary

A body does not derive its parts from its extension, but in virtue of the extension the parts are disposed outside of parts in relation to space. Extension is not, therefore, the essence of material substance, but rather an accident distinct from such substance. That a body should naturally require to have extension is the formal effect of the accident called quantity, which is, therefore, defined as that accident which gives to material substance aptitudinal extension. Space is not a reality distinct from corporeal substance, nor is it a merely mental form, but rather an abstraction founded

on the extension of bodies. The presence of a body in space means that the body occupies the space in such a way that the whole body is in that portion of space and each part in the corresponding part of space. The place of the finite spirit in space is defined by the body in connection with which it acts. Time is a mental abstraction founded on the duration of changing things, and is the measure of their change. Eternity is infinite duration without extension or succession.

Propositions to be Explained and Established

1. Extension is not the essence of corporeal substance, but is an accident distinct from the substance.

2. Because of its quantity a body possesses aptitudinal extension.

3. Space is not a purely mental form of our perceptions.

4. Space is not any reality distinct from the bodies that exist in space.

5. Time is not any reality distinct from changing things, but is the measure of the rate of change in such things.

References

On Quantity

Coffey: *Ontology,* 308-217.
Mercier (Nys): *Manual,* I, 84-93.
O'Neil: *Cosmology,* I, 186-201.

On Space and Time

Rickaby: *General Metaphysics,* 363-382.
Coffey: Ontology, 308-317.
Mercier (Nys): *Manual,* I, 145-160.
St. Thomas: *Summa Theologica,* I, q. 10, a. 1, 4, 5, 6.

CHAPTER VIII

QUALITIES—HABIT—RELATION

1. Qualities and their Kinds

The Existence of Qualities

It has been the tendency of mechanistic philosophy to explain all reality in terms of matter and motion, and consequently to deny the existence in things of whatever could not be expressed in such terms. As they admit only material and efficient causes, there is no room in their systems for what Scholastic philosophy, following Aristotle, calls the qualities of things. Hence, where differences of qualities could not be accounted for as mere quantitative differences, they have insisted that the qualities were subjective to the thinking mind, and not objective modifications of reality. But a sound and a scent, whatever else may be true of them, certainly are not distinguished merely as quantitative differences in matter or motion: nor can realistic philosophy admit that they are merely sensations, i. e., purely subjective modifications of the perceiving mind. Therefore Scholastic philosophy holds that there are in substances modifications which are more than mere differences in quantity or modes of motion, and these modifications are called qualities, and are accounted for as being rooted in the form, just as quantity is rooted in the matter of the compound substance.

Meaning of Quality

A quality in its widest sense means any attribute of being, anything that can be predicated of substance to answer the question: What kind? (Qualis?). But

when used to designate one of the categories of being, quality signifies a special kind of accident. Albertus Magnus defined it as: "An accident completing and perfecting substance, as well in existence as in operation." Quality affects both material and immaterial substance, while quantity affects material substance only. In attributing to substance accidental modifications in the shape of qualities, Scholastic philosophy maintains that the differences between substances are not merely quantitative, but also qualitative.

Kinds of Qualities

Following Aristotle it is traditional to admit four kinds or species of qualities:

1. Dispositions or habit, such as health, sickness, learning, virtue;

2. Active powers or faculties, such as intellect, will, vital powers in general, chemical, physical and mechanical forces;

3. Passive powers or receptivities, such as passions and emotions, and such sensible qualities of bodies as color, temperature, etc.

4. Form, or external shape.

Characteristics of Qualities

All these qualities modify substance either in its being or its operation. Qualities are the basis of similarity and dissimilarity. According to St. Thomas, and indeed according to widely recognized methods of science, similarity in qualities is the surest test of the identity of beings in kind. But this test cannot be taken as absolute, for beings of the same kind are often found to be dissimilar in many qualities. In qualities, except the fourth species, form, there can be difference of degree.

2. Habit and Disposition

Difference Between Habit and Disposition

The first species of qualities, habit and disposition requires special consideration. Etymologically a habit means something that is had or possessed. In the use of the word to signify a species of quality there is implied the notion of stability or permanence in possession. It is on this point of stability that the distinction between habit and disposition mainly rests; for disposition is not regarded as having any necessary stability. Thus health is a disposition, not a habit, for it is regarded as variable and not resting on any very secure foundation. So, too, the state of mind which we call opinion is not properly a habit, but only a disposition, for it is variable and insecure; while science which is based on sure evidence is secure and permanent, and is therefore properly classed as a habit. Habits and dispositions, then, agree in being modifications which perfect a power of operation or a faculty, but differ in their stability or permanence.

Meaning of Habit

Habit has been defined as: "A quality, in itself stable and difficult to remove, designed to assist the operation of a faculty and make the operation easy." Habit, therefore, implies the more or less permanence in possession of a facility in the performance of the actions which belong to some faculty. It supposes the existence of the faculty, or the power of performing actions of a certain kind. It does not confer the power of operating, but facilitates the operation. It is acquired by the repeated performance of acts of the same kind. The repetition of the acts is a normal requirement for the acquiring of the habit, though it

St. Thomas: *Summa Theologica,* I-II, q.49, a.2, ad 3"".

is admitted that in extraordinary circumstances a habit might result from a single act. Thus the habit of knowledge in regard to some particular truth of the self-evident kind might result from the single act of grasping the evidence of that truth. Regularly, however, a habit is formed only as a result of repeated acts.

Supernatural Habits

Besides the habit described above, which is called the acquired habit, Christian philosophy recognizes what is called the infused habit. The infused habit is a stable perfection of some faculty, but it is not acquired by repeated acts, but is given, or infused by God. When the infused habit gives assistance that could not be attained by natural efforts, it is said to be infused *per se.* It does not presuppose the existence of the power to perform the act for which it gives assistance, but it bestows on the faculty both power and facility. Such a habit is sanctifying grace. It is supernatural. If, on the other hand, the facility given is such that it could have been attained by natural efforts, though in fact it was not so attained, the habit is said to be infused *per accidens,* and it is preternatural. Such a habit would be the sudden facility of speaking hitherto unknown languages, which is called the gift of tongues.

Powers Affected by Habits

Some powers operate without the aid of habits and are not subject to habit formation. They are the powers of all forces that are set to operate in one determined way, such as the physical, mechanical and chemical forces of nature. There is not any question of facility in the operation of these forces. Such forces will operate as readily the first time as they

will after any number of repetitions. And in general there is no question of the forming of habits in connection with activities that are naturally predetermined. The automatic and instinctive activities of living beings are not material for the formation of habits. The nutritive powers do not form habits of digestion or assimilation; a bird does not form a habit of nest building. Such activities are naturally predetermined to occur under given conditions; they are not acquired by learning, and facility in them is natural, not acquired. For a faculty to be subject to habit formation it must be a faculty of such a kind that its operations need the aid of habit to be done with facility. It must, therefore, have, to begin with, the possibility of being directed equally well in more than one direction; it must not be predetermined to one only possibility. The habit then enters as a means of disposing the faculty to act with ease and readiness in one direction rather than in another. Therefore habit in the strict sense belongs to the human intellect and will; and in a less strict sense to the powers of sense. Hence, too, habits are divided, according to the faculties which they assist, into intellectual and moral. Knowledge is an intellectual habit, virtue a moral habit.

Acquiring of Habits

Habits, as has been said, are acquired by the repetition of similar acts. They arc not acquired all at once, but only gradually, and it is always possible to add to the facility acquired. This latter statement is

•The powers of the nutritive part have not an inborn aptitude to obey the command of reason, and therefore there are no habits in them. But the sensitive powers have an inborn aptitude to obey the commands of reason; and therefore habits can be in them: for in so far as they obey reason, in a certain sense, they arc said to be rational, as stated in *Ethic.* 1. St. Thomas: *Summa Theologica,* I-II, q. 50, a. 3, ad 1"m.

accurate only in regard to habits in the strict sense, that is, intellectual and moral habits. Habits in the less strict sense, which have to do with facility in the use of organic powers or muscular activities, do not seem to be capable of indefinite increase. As the habit can be increased, so, too, it may be diminished by remissness in the repetition of the similar acts, or by the practice of acts in the contrary direction. It may also be totally lost or discarded by the entire cessation of similar acts, especially if this is accompanied by the practice of acts of the opposite kind. The increase of a habit is said to be intensive when the facility in an operation is increased; it is called extensive when the facility is extended to more objects, as when knowledge is increased to include more objects of knowledge rather than a more ready grasp of objects already known.

What Habit Is Ontologically

From an ethical standpoint the habit is of interest as affecting the morality of human actions; but in Metaphysics it is studied merely as a reality existing in a faculty and modifying that faculty by perfecting it. The perfecting, as we have seen, consists in giving facility, and even though the habit acquired were an evil one ethically, the facility involved would still be a perfection in a metaphysical sense. The mere fact that an act has been done once or several times is in itself no reason why the performance of that act should thenceforth be easier. Consequently the habit is not the mere repetition, but is something in the faculty that is produced as a result of the activity and that is increased as a result of the repetition of the activity. This something, which we call the modification of the faculty, is the ontological or metaphysical reality of the habit. It is something other than the faculty itself, for the faculty itself did not possess the

facility which this modification gives. It must, therefore, be an accidental perfection of the faculty.

3. Relation

Absolute and Relative Being

In thinking of being we may consider it as it is in and by itself, and then we are taking being absolutely; or we may consider it with regard to some other being on which it depends, which it is like, or with which it has some other connection. In this latter case it is taken relatively. This is not the only sense in which the terms absolute and relative can be taken, but it is the sense in which we mean them in this consideration of relation as a category of being.

> Absolute is often taken to mean that which is entirely independent in being, necessary being, or infinite being. Relative must then mean, dependent, finite, contingent. In this case absolute and relative indicate a division of being. Only one being could be absolute in this sense; all others must be relative. But in the sense in which we arc using the terms they do not indicate any division of being, for in this sense of the term every being is absolute and every being is relative.
>
> Absolute is also sometimes taken to mean being out of all relation to a knowing mind; relative will then mean being as related to knowing mind, being as known.

The Meaning of Relation

Like the ideas of the other categories of being, relation is too simple a notion to admit of a strict definition. We can, however, explain it as meaning a reference or regard of one being to another. If two things are round, as the earth and a ball, the one can be

referred to the other under the aspect of likeness in shape, and they have the relation of similarity. For a relation to exist, then, we must have the following conditions: Two things to be referred one to the other, and some reason in them, or in one of them, why the reference can be made. The relation will, therefore, have:

1. A subject, i. e., a being which is referred to another;

2. A term, i. e., a being to which the subject is referred;

3. A foundation, i. e., something in the subject or in both subject and term on account of which the subject is referred to the term.

Requirements for Real Relation

To have a real relation subject and term must be two distinct realities. There must exist between them some form of real distinction. Thus if two walls of a room are white, we have two distinct realities as terms of a relation, and their color as a foundation for the real relation of similarity between them. This relation is real in the fullest sense, for it is also a mutual relation, since the foundation of the relation is found in both subject and term. The relation of friendship existing between two men illustrates the real mutual relation which is said to be of the same denomination, since it is called by the same name no matter which of the terms is used as subject of the relation. The relation existing between father and son is also a mutual relation but of different denominations; for if the father is taken as the subject, the relation is that of paternity; if the son is the subject, the relation is that of sonship.

Mixed Relation

When the real foundation does not exist in both subject and term, the relation is said to be non-mutual or mixed. It is real on one part, but not real on the other. Thus the relation between God and creature is real on the part of the creature, because the creature has a real dependence on God; but it is not real on the part of God.

In regard to this relation, however, note the following from Rickaby, *General Metaphysics,* 107:

> "The Creator enters into what are considered relations with his creatures; and if many theologians refuse to call these relations real, it is only to save the appearance of asserting any intrinsic change within the immutable God, or any real dependency. Others, with the proviso that the divine attributes are to be kept inviolate, say that the relation may be called real to signify that creation on the part of God is most really his work, though he does no work after our way of passing from potency to act and of depending on materials."

Logical Relation

When the terms of a relation are not two really distinct things, we have what is called a mental or logical relation. Thus the relation which is expressed in the principle of identity: A thing is the same as itself, is a logical relation. No such relation exists independently of the mind, for it is only the mind that establishes the terms as two. There is no real distinction between a thing and itself. A logical relation is, then, a relation which the mind sets up between things; a real relation is one that exists independently of the mind.

Transcendental and Predicamental Relations

By a transcendental relation we mean one that belongs to a being by the very nature of that being, and hence essentially and necessarily. The transcendental relation is for this reason often called an essential relation. Thus, a creature by its very nature has a relation to its Creator; thought has an essential relation to the object thought about. So, too, every being, by the very fact that it is a being, is related to mind, or has the relation of truth; and every being has also the essential relation of goodness, that is, it is essentially suitable to something.

A predicamental relation is one that may or may not belong to a being. It is therefore also called accidental. Thus, for one wall to bear the relation of similarity in color to another wall is to have predicamental relation. It need not have this relation and would not have it unless another wall of like color existed.

Foundation of Relations

According to Aristotle relations are founded on:

1. Unity and number; thus the relations of likeness, equality and identity arc founded on unity. There is some kind of oneness in the things that have these relations. The relations of unlikeness, inequality, distinction, are founded on number, for there is some multiplicity in things among which these relations exist.

2. Action and passion; cause and effect have a foundation of this kind. Cause is related to effect because of the influence it exerts in the production of the effect; and effect is related to cause because of its receptivity of the influence of the cause.

3. Measure; thus the relation of the mind to the thing which the mind knows is founded on measure, because the object which the mind knows is the measure of the knowledge in the mind.

Axiom

An axiom in regard to related things states that: Related things are simultaneous in nature and in knowledge. To be true this axiom must be applied to related things formally as related and not otherwise. Thus parent and child, as related things, exist simultaneously. The human being exists before the child, but not the parent. So, too, the human being is not known as parent except simultaneously with the knowledge of the child. But the human being can be known as a man or woman altogether independently of any knowledge of the child. So, too, in general, cause and effect, considered formally as cause and effect, are simultaneous. But that which is the cause of the effect may have had existence in time prior to the existence of the effect.

Existence of Logical Relations

That logical relations exist is entirely evident and will not be questioned by any. The mind is certainly capable of setting up relations between the things it thinks of, and it certainly does set up such relations. Indeed, if no relations existed among things and the mind did not set up any relations, we could have no understanding of things. For then everything would be known simply as a disconnected unit without any reference to anything else. Actually, however, we never understand things until we grasp them in relation to other things.

Existence of Real Relations

But as to the existence of real relations there is no such unanimity among philosophers. What anyone will admit on this subject is going to depend largely on his theory of knowledge. Realists such as the Scholastics are, stand for the existence of real relations in the sense we have defined above. According to the Sensist philosophers like Hume and Mill, who claim that we know only our own ideas and mean by ideas sensations, relation can

be nothing more than some perceived connection between ideas. In Kantian philosophy relation is an *a priori* mental form; not an idea which we derive from our experience of things, but a mere form of the mind in which we necessarily do our thinking, but which we have no right to attribute to things as they are in themselves outside our minds. But real relations must be said to exist if,

Proof of the Existence of Real Relations

1. Independently of our thinking some things depend on other things, or some things have qualities like or unlike other things. But this is actually the case. Therefore we must admit the existence of real relations. The discovery of the dependence of the tides on the moon is of comparatively recent date; but surely the dependence of the tides on the moon did not begin with this discovery. Our thinking does not establish the relationship of two sons in the same family. Independently of all thinking there is a connection between them which is not found in two boys who are not of the same family.

2. Without the existence of real relations there would be no law or order in the universe of things as they are. We certainly think of the universe as a "cosmos," that is, as a universe of order and arrangement. If there were no real relations, then things as they are in themselves would be a mere collection of entirely unconnected units. For there can be no order and arrangement where there are no relations of co-ordination and subordination, of influence and dependence. And even if we deny all other relations to our collection of disunited units, still if it is a mere heap, there will be some relations in it; for the units will be related at least in regard to the space they occupy. One unit will have to be above or below or near to or far from some other units. Therefore we cannot deny the existence of real relations without making the universe a chaos, unless we *go to* the extreme

of Idealism and deny that any being exists outside of the mind thinking. In such a system of thought all relations, like all reality, would be merely mental.

In What the Reality of the Relation Consists

The reality of a relation is not the subject nor the term nor the foundation on account of which the subject is referred to the term. It is the actual reference of the subject to the term. Does this being referred to a term add any reality to the being that has the relation? On this question there has been some difference of opinion, some holding that the relation does add a reality to the being which has the relation. The weight of opinion, however, is against this view of the question.

Summary

Quality as a category of being is an attribute completing and perfecting substance in existence and in operation. Four species of qualities are recognized. They are the basis of similarity and dissimilarity, and, except the fourth species, form, they admit of degrees of difference. Habit is a stable quality difficult to remove and making the operation of a faculty easier. Only those faculties which are not set to act in one determined way are subject to habits in the strict sense. Habits are acquired and strengthened by the frequent repetition of similar acts, and are diminished or lost by the omission of such acts. Ontologically habit is not the mere repetition of the acts, but is a modification of the faculty resulting from the repeated acts. Absolute being is being taken in itself and without regard to other being; relative being is being considered with reference to other being. Relation is such reference of a being to something else. In a relation there must be a subject, a term, and a foundation. If a real subject is referred to a really distinct term independently of our thinking it so, the relation is real; otherwise it is logical. Relations are

founded on unity and number, action and passion, and measure. The power of the mind to set up relations between things proves the existence of logical relations. Real relations must be admitted if, independently of our thinking, there is law and order in the universe.

Propositions to be Explained and Established

1. Substances differ in quality as well as in quantity.
2. A natural habit presupposes the existence of the power to perform an operation.
3. Not all powers are the subject of habits.
4. The habit is not the mere repetition of acts, but some real modification in the subject.
5. We must admit the existence of real relations.

Points for Further Study

1. The Reality of Predicamental Relations. (Cf. Coffey: *Ontology:* 349-356.)
2. The Apprehension and Measurement of Time. (Cf. Coffey: *Ontology:* 322-327.)
3. The Nature of Quality. (Cf. Coffey: *Ontology:* 286-288.)
4. The Subject of Habits. (Cf. St. Thomas: *Sum. Theol.* I-II, q. 59, a. 4, and q. 50.)

References

On Quality

Coffey: *Ontology,* 285-292; 298-308.
Mercier: *Manual I,* 492-493;

On Habit

Coffey: *Ontology,* 292-298.
Mercier: *Manual,* I, 493-496.
St. Thomas: *Sum. Theol.* I-II, qq. 49-54.

On Relation

Rickaby: *General Metaphysics,* 352-363.
Coffey: *Ontology,* 332-355.
Mercier: *Manual,* I, 500-505.

CHAPTER IX

CAUSE: EFFICIENT AND FINAL CAUSES

1. The Meaning of Cause

The Sufficient Reason

If reality is intelligible, there must be reason for things. It must be possible for intelligence to account for things, to find some intelligent answer to the question: Why is it? asked in regard to any being. The answer to this question will be the Sufficient Reason for the thing. On our assumption, then, that reality is intelligible it will be possible to formulate a self-evident principle in regard to the reason for things, to the effect that: Everything that is has a sufficient reason for its being. Now reality, as we saw, comprises the possible and the actual. Therefore if a thing is possible, there must be reason for its possibility; if it is actual, there must be reason for its existence. The sufficient reason for the mere possibility of things was indicated in the discussion on the intrinsic possibility of being; but the sufficient reason for the extrinsic possibility of intrinsically possible things, and in general the sufficient reason for the actual existence of all actual things is still to be considered.

The Principle of Causality

This sufficient reason may be looked for either in the being's own essence, or in something outside the being. But either within or without, some reason must be found why a being does exist rather than not exist. If we find the reason for existence completely

within the being's own essence, we have a self-existent being, one which exists by reason of its own essence, by the necessity of its own essence. The answer to the question, Why does it exist? is, Because of the essence which it has. Its own essence is the completely sufficient reason for its existence. We know, however, that beyond the actually existing things, there are things which could exist and do not, beings, therefore, which have not the complete reason for existence in their own essence. If, then, such beings come to have existence, this can not be entirely due to themselves, but, in part at least, to something else. They must also be extrinsically possible, i. e., there must exist some other being that can give them existence, and the influence of this other being must have been exerted in their favor. Now the reason for existence of a being, which is found entirely or in part outside that being, is called a cause. A being, then, which begins to be must have part of its sufficient reason for existence in some being outside itself, or, in other words, must have a cause. In this way we can arrive at the Principle of Causality: Whatever begins to be must have a reason for its existence outside itself. But though this principle is thus shown to be a special application of the Principle of Sufficient Reason to a special class of beings, i. e., beings that begin to be, it is really self-evident in its own right, for the two concepts, "to begin to be," and "to be without a cause," are evidently contradictory. For that which begins to be must first have been in a state of potentiality, and, as we have seen above, potentiality cannot become actual without the intervention of some already actual being.

See page 59

Reason and Cause

It must be noticed that the concept of "a reason" for a thing is of wider extension than the concept of "cause." "Cause" is only one kind of "reason." Everything must have a reason, but only some beings must have a cause. It is a confusion of thought to speak of a being as "self-caused," as Spinoza docs *{Ethics,* part I, prop. 7). The self-existing Being is not self-caused; it has no cause and no need of a cause.

Principle and Cause

All explanation is going back to principles. So we have principles of knowledge, certain primary truths from which further knowledge is derived and which we *go* back to in order to account for the further knowledge. Seeking to account for things by assigning their sufficient reason will, therefore, be going back to the principles of being. A principle of being will be some reality from which being originates or is derived. "A principle," says St. Thomas, "is that from which anything in any way proceeds." *(Summa Theologica,* I, q. 33, a. 1.) That which has its origin in a principle is called a principiate. Now the relation between a principle and a principiate may be a relation of order only, or a relation of order and dependence. When there is a relation of order and dependence, i. e., when one thing follows from another with dependence on that other, the principle is called a cause, and the principiate an effect. A cause is, therefore, a principle from which something originates with dependence. It is defined as that which in some way influences the production of something else. A principle need not be really distinct from its principiate, but a cause is always at least as really distinct from its effect as a part is distinct from the whole to which it belongs, or a substance from its modes.

Priority of Principle to Principiate

Since a principle is that from which something originates, there will be some priority between principle and principiate. This priority may be:

1. A priority of mere time: January first is the principle, in the sense of being the beginning or first day of the year;

2. A priority of nature (in which priority of time need not be included); as when the essence of a being is considered prior by nature to the properties that flow from the essence;

(3. A third kind of priority is recognized on grounds of theological considerations. It is called priority of origin and excludes priority of both nature and time. This priority is indicated in the Trinity, where the Father is principle of the Son, and Father and Son are the principle of the Holy Ghost.)

Priority of Cause to Effect

Cause has priority of nature to its effect; that which is a cause must exist in order to exercise causality. It need not, however, have priority of time. The cause of a being, therefore, must be found among the antecedents of the being, understanding by antecedents those things which are presupposed in nature, or in nature and in time, to the existence of the being which is the effect. In looking for the cause among antecedents of an effect it must be borne in mind that the cause always has some direct or positive influence on the production of the effect. Many of the antecedents may be necessary for the production of the effect, and yet not positively influence this production. Such antecedents are not causes.

Condition

Besides cause, it is important to notice among antecedents of an effect condition and occasion. The condition is a circumstance or set of circumstances required for the working of the cause. It does not directly influence the effect, but its influence is rather on the operation of the cause. Its influence, too, is negative rather than positive. It removes impediments to the operation of the cause. Thus when a switch is thrown, the throwing of the switch is not the cause of the passing of the locomotive to another track, but only a condition for its passage, by removing an obstruction from the way.

Occasion

An occasion is a circumstance or set of circumstances that favors the operation of a free cause. It is not necessary for the operation of the cause, as a condition is. The operation could take place without it, but not so readily. It has in it something of the nature of a moral cause, in as much as it suggests or perhaps even persuades the doing of an action. Thus, when Shakespeare says:

> "How oft the sight of means to do ill deeds
> Makes ill deeds done!"

he does not mean to remove responsibility from the doer of the ill deeds and throw the blame on circumstances, but only to insist on the influence the occasion of evil may have on the doer. Night is not the cause of robbery, but favors the operation of the robber.

Our Idea of Cause Clear, Though Only Generic

We claim to have a clear idea of cause, though this idea is only a generic one. Our idea is clear, because we know what we mean by a cause, and we can dis-

tinguish cause in general from other antecedents of the effect. The idea is, however, only generic, for though it tells us in general what cause is, we do not assert that it enables us in a particular case to designate the cause among a set of antecedents. In a concrete instance it may not be possible to pick out the antecedent which is actually the cause of the effect produced, yet we know that the cause, in this case and in all cases, is the antecedent which directly and positively influences the production of the effect. Which one positively and directly influences the production of the effect, we may not be able to point out.

2. Division of Causes

Aristotle's Four Causes

Since the time of Aristotle there has been recognized a four-fold division of causes, according to the difference of influence which these causes exert in the production of the effect. The four causes of Aristotle are: the material cause, the formal cause, the efficient cause and the final cause. The admission of these four causes is an essential part of the Aristotelian and Scholastic systems. The material and formal causes are bound up with the Aristotelian theory of the constitution of bodies; hence their causality will not be admitted by those who hold different theories on this subject. The efficient cause as a reality actually influencing the production of an effect, is denied or at least called in doubt by all the Phenomenalist schools, since they admit invariable sequence of events only, and claim that no event actually influences another. Kant, too, denies efficient causality as far as the things in themselves are concerned, holding that causality is not an idea derived from experience, but an *a priori* mental form, which therefore belongs to the phenomenal world only, but not to the thing in itself. Final cause is

denied by all who refuse to see the evidence of purpose in the universe. Material and formal causes will be treated in a separate chapter. The present chapter will deal with efficient and final causes only.

Kinds of Efficient Causes

Efficient cause is that cause which contributes to the production of an effect by exercising an activity which gives existence to the effect. It is that *by which* something is done. Its activity is called efficiency. Among efficient causes we must recognize the following divisions:

1. The first cause, which is independent of all other causes and on which all other causes depend for the exercise of their activity; second causes, those that are dependent on the first cause. The nature and existence of the first cause and the relation of the second cause to the first is treated in that part of Metaphysics which is commonly called Natural Theology.

2. Principal cause, which exercises its own activity in the production of the effect, and on which the effect primarily depends; instrumental cause, which can exercise activity in the production of an eeffet only in so far as its power is applied and directed by a principal cause. In the writing of a letter the letter-writer and his pen are both causes. The letter-writer is the principal cause; the pen the instrumental cause. The instrumental cause really exercises efficiency, but only as it is applied and directed by the principal cause.

3. Immediate cause, which reaches to the effect without any other cause intervening; mediate cause, which reaches the effect only through another cause. Thus if I command a person to do some work and he does it, he is the immediate cause of the work done and I am the mediate cause. I reach the effect only through him.

4. Necessary cause, which must act when all the conditions for action arc present; free cause, which docs not need to act when all the conditions for action are present. The will is an example of a free cause; all other second causes are necessary causes.

5. Adequate cause, which by itself is equal to the production of the effect; inadequate cause, which is not equal by itself to the production of the effect.

6. Physical cause, which produces an effect by the exercise of physical activity, such as the activity of any mechanical, physical or chemical force; moral cause, which produces an effect by exercising moral activity. Moral activity affects directly the intellect and will of another, by suggestion, persuasion, intimidation, command, etc. It reaches the effect produced by the other only indirectly, and hence it is a mediate cause of that effect. He who persuades another to do evil is the moral cause of the evil and also the mediate cause. The one who does the evil is the physical and immediate cause of the evil act.

> (We must observe, however, another use of the term Physical Cause. As used by writers of the Phenomenalist schools it means merely the invariable antecedents of an event, without any reference to any influence exerted on the production of the event. Cause which is thought of as exerting any influence on the production of the event is called by these writers metaphysical cause. Cf. Mill, *System of Logic,* III, v, art. 2.)

7. Univocal cause, which produces an effect of the same nature as itself; as an organism producing another organism of the same kind; non-univocal cause, which produces an effect of a different nature from itself, as when an artist paints a picture.

3. Validity of the Idea of Efficient Cause

Attacks on the Validity of the Idea of Cause

Onesidcmus of Crete (circa 80-50 B. C.) maintained that the notion of cause is devoid of meaning. He argued that a cause either precedes an effect, or is synchronous with it, or subsequent to it. The last supposition is evidently absurd; but neither can a cause be before the affect, for it is not a cause until the effect exists. It remains, then, that it should be simultaneous or synchronous with the effect; but in this case there is no more reason for calling one of the synchronous things a cause or an effect than the other. To this reasoning the answer is suggested by what was already said about related things being simultaneous in nature and in thought. If the related things are taken formally as related, they are simultaneous. Cause and effect, taken formally as cause and effect, are simultaneous. There is reason for calling one of two simultaneous things cause and the other effect, for causality is not indicated merely by priority in sequence, but by influence exerted in the production of another being.

Hume (Turner, *History of Philosophy,* 521-523) is the leader of the more modern attack on the validity of efficient cause. By many his analysis of the idea of cause is supposed to have disposed finally of the notion that there is such a thing as efficient cause, or at least that anything can be known as influencing the production of anything else. His analysis of cause, like his analysis of substance, depends on his theory of ideas. According to Hume our ideas are formed by reflection on our internal and external sensations, and the ideas are only faint copies of the sensations. Now our sensations show us objects close or contiguous to one another, or one succeeding another; but they do not show us one being producing another;

therefore the ideas, which are only copies of our sensations, and rather faint copies at that, can only represent the notion of objects related by succession or contiguity. In our notion of cause, however, there is something over and above the mere notion of succession or contiguity of objects. There is also the notion of the necessary connection between the object which we call the cause and the object which we call the effect. This notion is explained by Hume by the supposed fact that we always expect that what has followed from a certain object or train of events in the past will follow from it in the future.

> "A cause," he says, "is an object precedent and contiguous to another, and so united with it that the idea of the one determines the mind to form the idea of the other, and the impression of the one to form the more lively impression of the other. Should this definition also be rejected for the same reason, I know no other remedy, than that the persons who express this delicacy should substitute a juster definition in its place. But for my part I own my incapacity for such an undertaking. When I examine with utmost accuracy those objects which are commonly denominated causes and effects, I find in considering a single instance, that the one object is contiguous and precedent to the other; and in enlarging my view to consider several instances, I find only that like objects are constantly placed in like relations of succession and contiguity. Again, when I consider the influence of this constant conjunction, I see that such a relation can never be the object of reasoning and can never operate on the mind, but by means of custom, which determines the imagination to make a transition from the idea of one object to that of its usual attendant, and from the impression of one to the more lively idea of

> the other. However extraordinary these sentiments may appear, I think it fruitless to trouble myself with any further inquiry or reasoning upon the subject, but shall repose myself on them as on established maxims." *(A Treatise on Human Nature,* bk. I, part 3, sec. 14.)

It may be freely admitted that on the foundation of a theory of knowledge, such as Hume's, it is not possible to account for the idea of causality or for any other abstract idea. He is a Sensist, admitting only senses and imagination as sources of knowledge. One who does not admit intellect as distinct from sense and imagination, cannot find room for abstract ideas. But even on his own theory of knowledge his analysis is not accurate. No invariability of sequence, no matter how constant, can be the explanation of our calling one object cause and the other effect. The invariable sequence of day and night does not even tempt us to suggest that one is the cause or the effect of the other. We do actually distinguish between sequences which are mere sequences and sequences which are something more. Sometimes, too, we have to be satisfied to remain in doubt whether the connection of two objects is mere sequence or whether it indicates a more intimate relation, and this even though the sequence of these events has been invariable, as far as our experience goes. Our experience is necessarily limited and on it alone we never could build up any general truth. If there was not intellect to abstract the universal from the data of experience, our generalizations could never reach more than a fair degree of probability. Then, too, we must not analyze our experience on the supposition that we have senses only. It is true that all experience comes through the senses; but human experience is the experience of beings that have in the same unity of

consciousness intellectual activity as well as the activity of the powers of sense.

> It must be observed, too, that even in this analysis of cause, Hume cannot escape speaking in the language of true causality. In the selection given above he speaks of one idea "determining the mind to form the more lively idea of the other." He makes the idea exert true causality on the mind, for "determining" must mean "exerting an influence on." If he was consistent with his own teaching in this place he should rather have said, "the idea of the one is invariably contiguous and precedent to the other." But this explanation would be merely tautological.

Cause in Kantian Philosophy

Kant admits causality as an *a priori* mental form, and consequently he gives it place in, or rather he imposes it on, the phenomenal world, i. e., the world of things as they appear. It is not derived from experience, but is presupposed to all experience. It is part of the equipment of the reason. Besides, experience, according to Kantian philosophy, does not deal with extra-mental reality, with things-in-themselves, but only with the phenomenal, with things as they appear in our knowledge.

To disprove the Kantian account of causality it would be necessary to disprove the foundation of it which is his theory of knowledge. This cannot be undertaken here, and we shall have to content ourselves with presenting the reasoning on which we build our claim that the idea of causality has validity for the world of extra-mental reality, that it is an idea founded on our experience in the world of reality.

Proof of the Validity of the Idea of Cause

An idea is valid if the object it represents to the mind is something that has existence in the world of

reality outside the mind. Such we claim our idea of cause to be. For that which it represents to the mind, i. e., a being which influences the production of another being, exists in reality outside the mind. That this is so the following considerations will show :

1. Where real change takes place, some new actuality is given to a being. But this new actuality cannot be accounted for except by the influence of some other being which produces it; for a potentiality cannot make itself actual. Therefore there must be a being which influences the production of another being, i. e., a cause.

2. Our consciousness testifies that we actually give actuality to thoughts, volitions and bodily movements. They do not simply occur to us or in us, but we produce them.

3. All languages testify to the common consent of mankind that there is such a thing as causality. This testimony is found in the grammatical structure of languages, in the active and passive forms of the verbs, showing the natural requirement of expressing the conviction that there is really activity on the part of some objects and receptivity of such activity on the part of others. The passive form of the verb shows the subject as receiving some influence from the activity of some other being.

Occasionalism

Among those who admitted the validity of causality in general there have been some, especially among the followers of Descartes, who held that causality is exercised by the First Cause only. Second causes are not true causes and do not produce effects, but their activity is only the occasion which the First Cause takes to produce effects that correspond to the movements in what are generally called second causes. The proponents of this view were therefore called Occasion-

alists. Occasionalism is a development of the teaching of Descartes in regard to the essence of material substance. The essence of material substance, he claimed, is extension. Matter is the recipient of activity from without but has no activity of its own. Hence, concluded the Occasionalists, material things cannot be causes. Even the human soul, which Descartes defined as "thinking substance," can hardly be a cause, for in this view thought is rather produced in the mind than by it. Therefore Malebranche and Geulincx contended that efficient causality belongs to the First Cause alone. A leading principle in the Occasionalism of Geulincx was that: When I do not know how a thing is done, I did not do it. This makes the possibility of knowing the fact of efficient causality in any case depend on our understanding of the nature of that causality. But clearly we can know facts without understanding their nature. The fact that I cannot explain how my will to move my hands results in the movement I intended, does not prevent me from knowing that I have moved my hand. Malebranche argues that we cannot perceive any necessary connection between cause and effect except in the case of the Divine Will and the effects which it produced. But this claim, we must insist, is not true. It is only by reasoning that we perceive the necessary connection between the Divine Will and its effects; that we know that a created thing has a necessary dependence on the Divine Will. By reasoning, too, on the relation between the second cause and its effects, we can see that if the effect exists, it has a necessary dependence on the cause which produced it.

Criticism of Occasionalism

St. Thomas *(Contra Gentiles,* III, 69) gives the following argument to prove that efficient causality belongs to creatures as well as God:

> "If effects are not produced by the activities of creatures, then they cannot manifest to us the powers of creatures; for it is only by means of the activity which, coming from the cause, finds lodgment in the effect, that the effect can show us what the power of the cause is. Now the nature of an agent is known from its effects, only so far as its power is thereby known; the power being in accordance with the nature. If, therefore, creatures exert no activities that produce effects, it follows that never could the nature of the creature be known by its effects; thus we lose all natural science, which proceeds chiefly by the method of demonstrating causes from their effects." (Translation by Rickaby.)

Moreover, if God is the only cause, it would be natural to conclude that God is the only substance. If the seeming productive activity of created substances is a delusion, why not also their seeming existence? All our evidence for the existence as well as for the causality of substance must go back ultimately to our experience, and experience assures us of reality only through our consciousness of our own activities, which the same consciousness tells us that we ourselves produce; or through our external sensations, which make us aware of external reality only on the supposition that this external reality is making some impression on us.

4. Axioms in Regard to Efficient Cause

"The cause must contain whatever perfection it confers on the effect."

This axiom rests on the general principle that a thing cannot give what it does not possess. But the cause need not contain the perfection of the effect *formally;* it is sufficient that it should contain

it virtually and equivalently. An explosive charge imparts velocity to a projectile. Of course, the charge does not contain velocity as such, or formally; but equivalently it does because its power is equal to the effect produced in the projectile. It has the perfection virtually. If God creates a rational soul, he must, as cause, contain the perfections of that effect, i. e., spirituality and rationality. Now God contains spirituality formally, for God is a spirit. Rationality he does not contain formally, for it is a form of intellectuality that presupposes imperfection in its subject. But he does contain rationality virtually, and not only equivalently, but even in a higher degree. For since He is an intelligent being, His intelligence embraces whatever perfection is included in rationality without the imperfection which rationality also contains.

"The same cause under the same circumstances always has the same effects."

This axiom holds good for those causes which are called necessary causes, and is the justification for our expectancy of uniform results from uniform causes. If a cause is a necessary cause and has, therefore, one determined way of acting, it must always act that way when the right circumstances for its action are provided. Whenever the same circumstances are provided, the cause, having its determined way of acting and no other way, will always act in this same determined way. Apparent exceptions to this axiom admit of ready explanation. If two men are exposed to the same danger of contracting a disease, and one contracts it while the other does not, the reason undoubtedly is, that, no matter how much other circumstances are the same, one circumstance, at least, is different—the degree of immunity to this disease which each man has.

"The cause is prior to the effect."

This axiom has been sufficiently explained above in

speaking of the priority of cause. The only priority required to uphold the truth of the axiom is priority of nature.

5. The Final Cause

The Meaning of Final Cause

The Final Cause is "that on account of which something is done." When an intelligent agent acts up to his intelligence, that which he does is not done at random or aimlessly, but he has a purpose before him for which he is striving, and the accomplishment of that purpose will mark the end of his activity in this particular undertaking. It is this purpose that incites him to action, that keeps his efforts from being expended uselessly on irrelevant issues, and that guides him in the choice of means that will help to the accomplishment of what he set out to do. All his efforts, in fact, are under the control of the purpose he has in view. Now supposing his efforts to have been successful, then, when his activities come to an end, there will be found existing in reality something which, when he began, had existence only in the idea, but which in its ideal existence incited him and guided him to make its existence real. This is the final cause. It is called a purpose, because he works for the sake of it; an end, because, since it is the goal to be reached, the purpose of his activity is accomplished and the activity terminates when this goal is reached; and it is a good, because there would be no sufficient reason for the activity to be exercised unless from the activity something desirable could result. It is not, however, the good *as attained,* but *to be attained,* that is the final cause; for the final cause, as such, is not a physical reality such as the efficient cause is, and therefore it canont exert activity in the same sense.

The Causality of the Final Cause

What, then, is the Causality of the final cause? St. Thomas tells us (*QQ. De Veritate,* q. 22, a. 2): "As the causality of the efficient cause is to act, so the causality of the final cause is to be tended towards and desired." Its causality is then of an entirely different order from the causality of efficient causes. Its effect is directly on the efficient cause itself, causing it to tend towards the good desired and to exert its activity for the sake of the good desired. So to influence the efficient cause, it must be known; but to be known is only a condition for the exercise of its influence. It is not the influence itself. Its influence consists in being desired, or tended towards.

If, then, the causality of the final cause consists in being tended towards, and if knowledge of its desirability is a condition required for the exercise of this causality, it may be asked: How can efficient causes which lack knowledge be under the influence of final causes? They cannot tend directly to the end, St. Thomas answers (*QQ. De Veritate,* a. 5), unless the requirement of knowledge is supplied on the part of the being that directs them to their end. Therefore, too, he says the existence of a tendency towards an end in unconscious natural causes postulates the existence of an intelligent cause to direct them to that end. This consideration is the foundation of the Teleological argument for the existence of God.

The Existence of Final Causes

The existence of final causes is denied or ignored by all Mechanistic philosophy, that is, by all philosophy that attempts to explain reality in terms of mere matter and force. Final causality is not capable of measurement in mechanical units. Its equivalent cannot be found in energy expended or in work done. Yet to omit final causality from our account of reality is to leave an important side of reality unexplained. Efficient causes

acting on matter (the origin of which Mechanistic philosophy does not and cannot explain) can alter matter and be a sufficient reason for the existence of new combinations of matter. But reality is more than combinations of matter and energy. In the course of the changes that take place in nature, single beings arrive at the perfection that is suitable to them and in achieving this perfection they work out the order of the universe. Unguided causes cannot account for such results. Unless the result achieved was foreseen and intended, we should be compelled to call it accidental; but what is accidental cannot be the regular and uniform effect of the working of any cause. Therefore the foreseeing and intending of an end is necessary for the explanation of reality.

An argument of St. Thomas for the necessity of final causes is given in the *Summa,* I-II, q. 1, art. 2:

> "Every agent, of necessity, acts for an end. For if, in a number of causes ordained to one another, the first be removed, the others must of necessity be removed also. Now the first of all causes is the final cause. The reason of which is that matter docs not receive form, save in so far as it is moved by an agent; for nothing reduces itself from potentiality to act. For if the agent were not determined to some particular effect, it would not do one thing rather than another: consequently in order that it produce a determinate effect, it must, of necessity, be determined to some certain one, which has the nature of an end. And just as this determination is effected in the rational nature by the *rational appetite,* which is called the will; so, in other things, it is caused by their natural inclination, which is called the *natural appetite.*
>
> "Nevertheless it must be observed that a thing tends to an end, by its own action or movement, in two ways: first, as it were, moving itself to the end,—as man; secondly, as though moved by another

to the end, as an arrow tends to a determinate end being moved by the archer, who directs his action to the end. Therefore those things that are possessed of reason, move themselves to an end; because they have dominion over their actions, through their free will, which is the faculty of *will and reason.* But those things that lack reason tend to an end by natural inclination, as though moved by another and not by themselves; since they do not know the nature of an end as such, and consequently cannot ordain anything to an end, but can be ordained to an end, only by another. For the entire irrational nature is in comparison to God as an instrument to the principal agent, as stated above (I, q. 22, a. 2, ad 4um; q. 103, a. 1, ad 3um). Consequently it is proper to the rational nature to tend to an end as though directing and leading itself to the end; whereas it is proper to the irrational nature to tend to an end, as directed or led by another, whether it apprehend the end, as do irrational animals, or do not apprehend it, as is the case with those which are altogether void of knowledge."

"The first among all causes is the final cause." The final cause is first *in intention.* The whole process of causality from which an effect emerges begins with the final cause, acting on the efficient cause, which is thereby incited to activity to bring about the effect. The effect being produced, the good, which in the order of intention was the final cause, now exists in reality as the end of the activity of the efficient cause. Therefore the final cause is said to be *first in intention, but last in execution. Ci. Summa Theologica,* I-II, q. 1, a. 1, ad 1um.

Summary

The principle of sufficient reason demands that there should be, outside of beings that begin to be, a sufficient reason for their existence. Such a reason,

outside the being itself, is a cause. The cause is a principle of being, since the being has its beginning in the cause; but it is a principle from which the being which is an effect proceeds with dependence. Cause must be antecedent to the effect in nature, but not necessarily in time. Other antecedents of the effect are, the Condition which influences the operation of the cause, and the Occasion which facilitates the operation of the cause though its influence is not necessary. We can have a clear, generic idea of cause. Aristotle and the Scholastics recognize the fourfold division of causes into material, formal, final and efficient. Among efficient causes we must recognize first cause and second causes; principal and instrumental causes; necessary and free causes; adequate and inadequate causes; physical and moral causes. Against Hume we maintain that the concept of efficient cause has validity. His denial of validity is founded on his wrong interpretation of experience, and this in turn results from his erroneous theory of knowledge. Neither is the concept of cause a mere mental form, but it is derived from the correct understanding of our experience. Occasionalism denied causality to second causes, attributing all causality to the First Cause. The final cause exerts its activity by being tended towards and desired. Without final causes the suitability of effects cannot be explained.

Propositions to be Explained and Established

1. The principle of causality is an application of the principle of sufficient reason to beings that begin to be.

2. The principle of causality is self-evident.

3. A cause is a principle from which something proceeds with dependence.

4. The priority of cause to effect need not be a priority of time.

5. Condition and occasion influence the effect only through their influence on the operation of the cause.

6. Hume's analysis of causation does not explain how we distinguish between causation and mere sequence.

7. The idea of cause has validity.

8. Occasionalism, by denying causality to second causes, removes the foundation of our natural knowledge and should issue logically in Pantheism.

9. The causality of the final cause is to move the efficient cause by being desired.

10. Reality cannot be explained without the admission of final causes.

Points for Further Study

1. Occasionalism. Cf. Rickaby: *General Metaphysics,* 308-313. St. Thomas: *Contra Gentiles,* III, 69. *Sum. Theol.,* I, q. 105, a. 5.

2. Origin of the Concept of Efficient Cause. Cf. Coffey: *Ontology,* 385.

3. The Objective Validity of Final Cause. Cf. Coffey: *Ontology,* 406-411.

References

On the Meaning of Cause

Rickaby: *General Metaphysics,* 298-305.
Coffey: *Ontology,* 357-360.
Perrier: *Revival of Scholastic Philosophy,* 68-81.

The Divisions of Causes

Mercier: *Manual,* I, 527-532.
Coffey: *Ontology,* 360-380.

The Validity of Efficient Cause

Rickaby: *General Metaphysics,* 307-341.
Coffey: *Ontology,* 381-403.

Mercier: *Manual,* I, 533-540.
Perrier: *Revival of Scholastic Philosophy,* 68-82.

On Final Causes

St. Thomas: *Contra Gentiles,* IV, 19. *Summa Theologica,* I-II, q. 1, a. 2. *De Veritate,* q. 5, a. 2, c.
Coffey: *Ontology,* 404-434.
Mercier: *Manual,* I, 535-562; 541-551.

CHAPTER X

MATERIAL AND FORMAL CAUSES
THEORIES OF THE CONSTITUTION OF INORGANIC BODIES

1. The Nature of Constituent Causes

Constituent Causes

While the efficient and final causes are extrinsic to the effect they produce, the material and formal causes are intrinsic to their effect, and are actually constituents of the effect. Their causality is, therefore, of an entirely different kind from the causality of the other two causes. They cause effects by contributing themselves as constituents of these effects.

The Material Cause

Material cause is that cause which contributes to the production of an effect by communicating itself as the determinable constituent of the effect. Thus if a person takes a piece of cloth and makes it into a garment, the cloth certainly contributes something to the effect produced. It lends itself to be fashioned into a garment. It can contribute in this way to the effect because it is capable of being fashioned into a garment. It is not the whole of the effect. There is in the garment, besides the cloth, also the shape. But the cloth is what we call the determinable part or constituent of the effect. It is not of itself a garment, but is capable of being made into one; i. e., it is determinable to be a garment; though at the same time it is also determinable to be something else; for example, a banner or an awning. As far as the cloth

itself is concerned it is indifferent what it shall be, whether a garment or a banner or an awning. It lends itself equally well to the production of any one of these effects. Therefore the material cause is of itself indifferent and undetermined with regard to the effect of which it is to be a constituent; but is capable of being determined to constitute one effect rather than another. Its causality is to communicate itself to the effect as the determinable constituent of the effect. Compared with other causes it is said to be, that *out of which* something is made. As the determinable constituent it is a potency.

The Formal Cause

Formal cause is that which contributes to the production of an effect by communicating itself to the effect as the determining constituent. As a constituent it is, in contrast to the material cause, an actuality or act. By its presence in the effect it fulfills the potentiality of the material cause, so that the result of the union of the two causes in an effect is an actual thing with a certain determined perfection. Now the determined perfection which the presence of the formal cause brings about in the effect may be something that belongs to the substance of the effect, as part of the substance, or it may be simply some accidental modification. Accordingly formal causes are divided into substantial or essential formal causes, and accidental formal causes. In the example given above we recognized in the effect not only the material cause, the cloth, but also a certain shape or cut. Now this shape or cut contributes something very real to the effect. Without it we should have merely a piece of cloth; with it we have a certain particular kind of garment. The shape or cut has determined the determinable cloth to be this garment. This is therefore the causality of the formal cause, that it should communicate itself to the effect as the determining element. It is that

by which something is *determined*. Like the material cause it is intrinsic to the effect and a constituent of it.

Exemplary Cause

The exemplary cause is that according to which something is made. It is the idea or plan according to which an effect is produced. It is usual to class the exemplary cause as a formal cause, but it must be noticed that, although the exemplar}' cause has causality like the causality of a formal cause, in as much as it determines the effect, still it is also unlike the formal cause, for it is not intrinsic to the effect and is not a constituent of it. Its influence is not directly on the effect, but rather on the mind of the efficient cause. Thus in our example of the garment, the tailor will have before him a pattern of the garment to be made, and this pattern will guide him in the process of making the garment. The pattern, which is the exemplary cause, will determine what kind of garment is to be made, but it is not a part of the garment. Hence the exemplary cause is called an extrinsic formal cause.

Relation of Material and Formal Causes to Substantial Change

Aristotle's division of causes into material, formal, final and efficient, was based on what he observed in the transformations that take place in nature and on what he inferred as to the nature of these transformations. He criticized both the Eleatics who looked upon reality as all actual and unchangeable, and Heraclitus who stressed change as the only reality. He took the middle course, holding reality to be not entirely actual, hut partly also potential, and continually passing from the potential to the actual. He admitted real being and real change, and it was to explain both permanence and change in reality that he formulated his doctrine of causes. The potential cannot make itself actual; there-

fore the influence of the efficient cause is needed to reduce potentiality to act. And because the effects in nature contribute regularly and uniformly to the perfection of nature, he recognized in that perfection to be attained the final cause and ultimate reason of all activity. But for the efficient cause to act and bring about change, there must be in the things of nature potentiality for such change; and this potentiality is his material cause, to which corresponds the formal cause or the actuality which fulfils this potentiality. To understand these causes, then, we must study them, and especially the latter two, in connection with change. And as the understanding of change is necessarily bound up with our ideas of the constitution of the things in which we find the changes occurring, i. e., the material substances, we must study the constitution of material substance.

"The question of the constitution of matter is one of those fundamental problems which, in the course of human investigation, have been most widely discussed, and of which an adequate solution will, perhaps, never be attained. It is one of those questions before which, according to Herbert Spencer, human reason must humbly confess its powerlessness; a question which seems to prove a mystery for the human mind and to point to the existence of the unknowable in nature." (J. L. Perrier: *The Revival of Scholastic Philosophy,* 82.)

2. Theories of the Constitution of Inorganic Bodies

The Constitution of Matter in Early Greek Philosophy

The very earliest Greek philosophy speculates, in a rather crude way, it is true, on the subject of the constitution of reality, as when Thales asserts that all things are made of water, or Anaximenes of vapor, or Heraclitus traces the origin of all things to the divine all-controlling fire. They were trying to explain the constitu-

tion of things by reference to a merely material cause, and like all the Greek philosophers they took for granted that matter is eternal and unproduced. They were seeking to find in this eternal unproduced matter some common element that would give unity to what was to them otherwise an unintelligible multiplicity of things. Only Anaxagoras among the early philosophers recognized mind as a separate reality and admitted its influence in the constitution of things.

The Atomic Theories

The first theory of the constitution of bodies that deserves to be taken seriously is that of the Atomists. Starting with Leucippus and Democritus, it was revived in a somewhat modified form by the Epicureans, for whom the Latin poet, Lucretius, was the spokesman in the Latin world. Gassendi, 1592-1655, brought it into notice again in his attempted revival of the Epicurean philosophy. The central doctrine of the Atomists is expressed for us by Lucretius in his poem, *De Reruin Natura*:

> "Ergo praeter inane et corpora, tertia per se
> Nulla potest rerum in numero natura relinqui."

There is nothing in nature besides atoms and the void. They were Materialists, and, among them, the Epicureans especially attempted to account for reality without the intervention of mind. For the Epicureans were primarily interested in the ethical subject of human happiness and sought to teach men how to achieve this happiness by freeing themselves from the fear of the gods. A step towards this liberation was to show that the gods had no concern with earthly affairs, by explaining reality without any appeal to mind. The characteristic doctrines of Atomism are:

1. All bodies are composed of extended indivisible corpuscles, called atoms because they are incapable of

division. These atoms differ from one another in shape and size and, according to some, in weight.

2. These atoms are of themselves inert, devoid of all inherent activity. Whatever motion they have is impressed on them from without.

3. The different properties of bodies are explained by the different combinations and local motions of the atoms of which the bodies are composed. The motion of the atoms is derived from natural necessity, or as some would express it, from chance.

Criticism of the Atomic Theory

Against this atomism as a philosophic theory it must be urged that it does not bring us to any ultimate principle of matter. It merely divides the larger body into smaller bodies of the same kind; and the question asked originally regarding the composition of the larger body remains unanswered as to the constitution of the smaller. "Whether you divide a body physically to secure the molecule, or decompose it chemically to obtain the atom of the element, it is always a complete substance of some sort; and quantitatively it is indefinitely capable of division. You cannot possibly convert the essentially composite into the simple by division or chemical analysis. You will have body to the last. . . . With material substance you began; and with material substance after all your efforts you must end" (Harper: *Metaphysics of the Schools,* II, 187). An extended thing, such as a body is, is divisible indefinitely. On *a priori* grounds there is no reason why the process of division should ever come to an end and bring us to the indivisible particle, the atom. So much for theoretical divisibility and theoretical reasons for admitting the atom. If, however, experience proves that, at least with the means at our disposal, a point will be reached beyond which division cannot be carried, then our investigation has led us to what is ultimate, not in the sense that further division is unthink-

able, but that it is impracticable. What we have arrived at is still an extended thing, and in it parts are assignable, even if we cannot separate them. But once these ultimate particles have been reached, the rest of the theory is purely mechanical. It is merely a case of building up out of these particles the masses of matter which we call bodies. In mechanical structure the force that builds up the masses from the particles is not any inherent tendency in the particles to come together, but a force altogether from without, just as in the construction of a building the bricks are brought together by a force applied to them from without. As a result of such a conception of matter we have a picture of bodily structure that is readily imaginable. And this, it may be said, apart from the apparent simplicity of the theory and the ease with which it apparently explains matter without the need of mind, is the chief point in favor of Atomism. This is the reason, too, why an atomic concept of matter proves so convenient in chemistry. It makes the structure of bodies so readily picturable.

But the Atomists did not succeed in explaining matter without mind. If all we had to account for was the structure of actually existing bodies, a mechanical theory might be satisfactory enough. But there is much more in reality than merely a number of actually existing things, built up out of whatever elements we find common to them and held together by external force. Beings have finality. In them and through them, and in and through the transformations they undergo, there is worked out an order of things that makes of material reality a universe. This finality is not accounted for by them. Indeed, the gravest objection against Atomism or any other mechanical theory of reality is that they cannot account for finality and are usually evolved for the

*The ancient Atomists had, of course, no such proof from experience. Their assertion of the atom was a supposition of their theory.

express purpose of excluding it. St. Thomas argues against mechanical explanations of nature to the following effect (*QQ. de Veritate, q.* 15, art. 2): The material and efficient causes (which are the only causes admitted in mechanistic philosophy) are the explanation of the effect's existence, but they are not sufficient to account for the fact that the effect has goodness, i. e., suitableness to itself and others. If an efficient cause acts in connection with a material cause, an effect will be produced, but will it be produced well or ill—in a way to be suitable to self and others or otherwise? There is no answer to these questions in a mechanical system. The efficient cause will act up to the full extent of its power unless impeded by some opposing influence or limited by the limited receptivity of the material cause. But the whole causality of the efficient cause is to exercise its activity on the effect without reference to the suitableness or unsuitableness of what is produced, unless the activity of the efficient cause is applied in a certain measure in view of a purpose to be accomplished. Thus heat applied without measure or purpose would be simply destructive. If its effect is good, it must be because it was applied in measure and with purpose. Therefore unless we admit some other cause besides the efficient and the material, we cannot explain why the effect produced is suitable.

Modern Atomism

More recent Atomism, seeing the impossibility of accounting for what takes place in nature by the mere local motion imparted to atoms by external force, has come round to the position of admitting forces inherent in matter, though it insists that these forces are purely mechanical. The attempt is made in such systems to reduce all the forces of nature to the two fundamental forces of attraction and repulsion, or to the one fundamental force of gravitation. But the objection urged by

St. Thomas applies to them equally well. They admit only efficient and material cause.

Dynamistic Theories of the Constitution of Matter

Opposed to the mechanism of matter and force are the systems that reduce matter to some form of force or energy. These systems go under the general name of Dynamism. There are traces of Dynamism in ancient philosophy, especially in Pythagoreanism, but the earliest clear statement of such an explanation of matter is that of Leibnitz. In his theory every reality is a monad, or a group of monads. God is the infinite uncreated monad; the soul is a monad; but bodies are groups of monads. The monad is simple, unextended and therefore indivisible, and endowed with the power of representation. This power of representation is not conscious in all monads, but becomes so only in the higher monads. Monads differ from one another in the perfection of this power of representation. Every monad represents every other monad in the universe. It is to be noted, however, that this power of representation is not like a force that acts from one body on another. The activity of representation remains entirely within the monad, so that one monad never acts upon another, but in virtue of a divinely pre-established harmony the changes that occur in any monad are exactly corresponding to the changes in every other monad. It is as if two perfectly accurate clocks were set to the same time, and though there was no connection between them, the movements of one would correspond with the movements of the other in virtue of the fact that they have been set to the same time.

Criticism of Leibnitz' Theory

The difficulties against such a system are partly the difficulties common to all Dynamism, that it cannot account for real extension, and that it makes matter altogether active without any receptivity; and partly they

are difficulties peculiar to the system itself. The theory is compelled to bring a special divine intervention to pre-establish the harmony. Changes in one body, which could be explained by the action on it of another body, are accounted for in this theory by the special action of the first cause. This is against the economy of all philosophic thinking, which forbids the introduction of a higher or greater cause than is necessary for the production of an effect. Then again, the power of representation, which is made the essential constituent of matter, is primarily a psychic or mental power, and to make it apply in the explanation of inorganic bodies and their activities, it will have to be stripped of almost all its meaning.

Leibnitz' idea of the parallelism of activity in monads furnished the suggestion for the modern theory of what is called psycho-physical parallelism. Psycho-physical parallelism is employed to explain the apparent interaction of mind and matter. The Identity theory of mind and matter denies interaction between mind and matter and explains what appears to be such interaction by the claim that every change in bodily activity will have corresponding to it a parallel change in psychic activity. The basis for this claim of parallelism is not any divinely pre-established harmony, such as Leibnitz appealed to, but the assertion that mind and matter are only two aspects or sides of one and the same reality. It must be noted, however, that the Identity theory has no necessary connection with any dynamic theory of the constitution of matter.

(Another objection against the theory of Leibnitz is that it deprives second causes of all real causality. It is a kind of Occasionalism.)

Theory of Boscovich

Another form of dynamistic theory is represented by the theory of Boscovich, that matter is composed of sim-

pie unextended points which arc centers of forces. These forces act towards each other by attraction and repulsion in such a way that, as long as the distance between the two centers of force is infinitesimally small, the force is a repulsion; but as the distance is increased this repulsion is diminished until it vanishes as a repulsive force and reappears as an attraction. The repulsion between centers infinitesimally close keeps these centers from coalescing, and is the explanation which this system offers of apparent extension in bodies. For a similar reason Kant made repulsion the primary constituent of matter, for without repulsion to keep other bodies or particles from occupying the same space, all matter would be reduced to a mathematical point.

Criticism

Real extension cannot be built up of the addition of unextended elements. Hence Dynamism cannot explain real extension, but is forced into the position of claiming that all extension is merely apparent A more serious objection, however, is that, while Dynamism is undoubtedly correct in making activity essential to matter, as opposed to those forms of Atomism which make matter essentially inert, it is in error in making activity the one and only characteristic of matter. Matter must be receptive as well as active. No effect could be produced in matter unless matter had some passivity or receptivity. If matter is not capable of being acted upon as well as of acting, its activity could not result in anything, and activity without some result is meaningless.

Energism

Some more recent speculations on the constitution of matter have given rise to what is called Energism. According to this theory, whatever we know of external reality we know in terms of energy', for it is only in some form of energy that external reality is revealed

to us. The concept of matter is, therefore, needless. All that concept means to us, it means in terms of energy. It is sufficient then to admit energy as the one reality. In energy two factors are admitted: quantity and intensity. There are different kinds of energy, but these are capable of being transformed one into another. This theory is sometimes interpreted in a monistic sense, making all reality *one* energy which remains constant and unchanging under all its manifestations which are the phenomena of nature. In this view individual substance is not real, but is merely a series of phenomena or manifestations of the one energy.

It is perhaps wrong to say that this is a theory of the constitution of matter, since it finds the concept of matter unnecessary. Matter is explained away rather than accounted for. It is true enough that we know external reality largely through manifestations of energy. But not entirely so. Many things which we know in connection with external reality, such as, extension, volume, mass, external shape, etc., are not manifestations of energy.

The Electron Theory of Matter

Experiments with radio-activity in more recent times have suggested the Electron theory of matter. An electron is a charge of negative electricity in size about 1/1,700 of the size of a hydrogen atom. These electrons are found to be the same in all atoms, though the number of electrons found in each atom will vary with the kind of atom. It is suggested by this theory that the electron is the common constituent of all matter. Before attempting to pass judgment on this theory it would be important to determine whether the electron is to be looked upon as a unit of electricity,—and whether in this case electricity is to be looked on as a substance, or whether the electron is a carrier of a unit charge of electricity. In this latter case it would appear that we are back again

to the modified form of Atomism which endowed the atom with inherent force. In the former case we have the recurrent difficulty of Dynamism, that the activity of matter but not its receptivity is accounted for.

Summary

The causality of material and formal cause is constituent; the material cause contributing to the compound substance as the undetermined and determinable element, the formal cause as the determined and determining element. The exemplary cause, though called an extrinsic formal cause, has its influence immediately on the efficient cause. The material and formal causes must be studied in connection with the constitution of material substance. Early Greek theories, as well as Atomism both ancient and modern, make use of material and efficient causes only in their attempts at the explanation of reality; but such causes arc not adequate. Theories of Dynamism reduce matter to force and so deprive it of all receptivity. Energism dispenses with the concept of matter entirely. The Electron theory seems reducible to some form of Atomism or Dynamism.

Propositions to be Explained and Established

1. By material cause is meant the undetermined, but determinable, constituent of a compound substance.
2. By formal cause is meant the determining element in a compound.
3. To explain true substantial change material and formal causes must be admitted.
4. No theory which admits only material and efficient causes can explain the constitution of material substance.
5. Material substance cannot be reduced to mere force or energy', as in the theories of Dynamism and Energism.
6. The Electron Theory is open to objections against Mechanism or Dynamism.

Points for Further Study

1. The Electron Theory of Matter. (Cf. H. V. Gill, in *Studies,* 1912, p. 9 sq.)

2. The Deficiencies of Mechanical Theories. (Cf. St. Thomas, *QQ. de Veritate,* q. 5, a. 3.)

3. Modern Conceptions of the Atom. (Cf. Mercier: *Manual,* I, 574-584.)

References

O'Neil: *Cosmology,* 1: 63-66.

Coffey: *Ontology,* 364-366.

Windle: *The Church and Science, 66-76.*

H. V. G.: "Most Recent Theories of Matter," *Studies,* 1914, 301.

Gill, H. V.: "Electron Theory of Matter," *Studies,* 1912, 9.

CHAPTER XI

MATERIAL AND FORMAL CAUSES (Cont'd)

THE ARISTOTELIAN - SCHOLASTIC THEORY

1. The Meaning of Hylemorphism

Hylemorphism

Opposed especially to the mechanical systems of the Atomists, who regarded material substances as mere aggregations of simple unchanged elements, is the Aristotelian theory of Matter and Form, as received and explained by Scholastic philosophy. This theory holds that every material substance is essentially composite, but yet a real substantial unity, an wmwwx *per se*. Different material substances are not merely different arrangements of the same elements, but each substance has its own specific nature, and substances differ one from another specifically. Substance is not essentially inert, nor on the other hand does it consist merely of activities or energies; but it is endowed with active powers and passive potencies or receptivities, and by the activity of these powers and the fulfilment of these potencies it works towards the accomplishment of its own perfection and the carrying out of the order of the universe. This working towards a purpose is not impressed on material substance by outward necessity; but it is the following out of an inherent tendency, the presence of which is manifested by the activities of the substance.

◆"Now a body is composed of potentiality and act; and therefore it is both active and passive." (*Summa Theologica,* I, q. 115, a. 1, ad 2um.)

Need of Two Substantial Principles in Material Substance

Now for material substance to be thus directed by inherent tendencies towards the accomplishment of its own determined end there must be in each substance, besides the material constituent which is the common constituent of all, another principle which shall determine the specific nature of the substance and the direction of its activities towards a certain definite end. Material substances are therefore composed of two intrinsic principles; the material principle, which is the same in all, and which is called Prime Matter; and the determining principle, which is proper to each, and which is called the Substantial Form. From these two principles the theory has received the name of Hylemorphism (from the Greek words, *hyle,* matter, and *morphe,* form) or the theory of Matter and Form.

Matter and Form Essential Parts of Material Substance

Matter and form arc the essential parts of material substance; for out of the union of these two the essence of the material substance is made up. They are called constituent and substantial parts, because they constitute or compose substance, and that which, substance is composed of must be substantial. They are also called incomplete substances, not that they are thought of as capable of existing *per se,* as complete substance does, but to indicate that they belong to the order of substantial perfection, as contrasted with accidental parts which belong to the order of accidental perfection.

All Material Substance Composite

Material substance, then, even such material substance as is considered chemically simple (the chemical elements), is essentially a compound thing, made up of essential, constituent parts, which parts arc really distinct

from each other, though united in the compound to form one substantial unity. But when we speak of "one substantial unit," we do not need to mean the mass of matter which forms a body in our ordinary experience of material things. In the case of inorganic material substances, at least (whatever may be true of organic bodies), the substantial unit will be the smallest unit into which a body can be divided physically without altering its specific nature. The unit will therefore be the physical molecule. The Scholastic theory is no way concerned to hold that a piece of pure gold weighing an ounce is one substantial unit. It may be an aggregate of many units, as it is thought of in Physics as being composed of many molecules. But the molecule itself is not merely several atoms of the same or different chemical substances brought into contact or conjunction with one another, but a real unit and one substance.

Hylemorphism a Metaphysical Theory

One who undertakes to understand the theory of Matter and Form must put aside all mechanical concepts of the constitution of matter. Elements like atoms may be separated from masses, and certainly they can be pictured in the imagination. It is moreover easy to picture the atoms as subjected to a variety of movements. This is why a mechanical theory will seem so clear and simple at the outset. But Matter and Form is a metaphysical theory, and the constituents of matter which this theory proposes cannot be found separately, nor can they be represented in the imagination. They are postulates of reason to account for what is seen to be the requirement of the order of material substance.

Prime Matter Is Potentiality

To understand the theory of Matter and Form it is further necessary to recall what has been said in speaking of reality in general. Reality is not all

actual; the potential as well as the actual is real. All finite being, moreover, is made up of the actual and the potential and is therefore partially potential. Finite spiritual substance is potential in the sense that it is capable of receiving further accidental perfection. Material substance is in potency, not only with regard to further accidental perfections, but also with regard to other substantial perfections. Because of their potentiality spiritual substances can undergo accidental changes; but material substances can undergo substantial changes also. In the language of Scholastic theory, spiritual substance is in potency to accidental forms; material substance is in potency to both accidental and substantial forms. The constituent of the material substance that corresponds to its potentiality is called Materia Prima (Prime Matter).

Prime Matter and Material Substance

Note that we use the word, matter, in English to mean material substance, or body. We must be on our guard, therefore, against confusing this usage of the term with its use to indicate one of the constituents of material substance. In the latter sense it is called prime matter. The matter of our experience is never prime matter, but always material substance, which is prime matter plus substantial form.

2. Description of the Constituent Parts of Bodies

Description of Prime Matter

In defining prime matter Aristotle used a definition which is entirely negative: "I say that matter, in itself, is neither substance, nor quantity, nor any other thing by which being is determined" *(Metaph.,* VI., c. 3). This definition tells us merely what prime matter is not,

but in so doing it points out the essential characteristic of prime matter, which is that it is being in entire indétermination. It is not substance, for substance is always a certain definite determined being; it is not quantity nor quality of any kind, for these are always determinations of being. Substance and quantity and qualities are all actualities; prime matter is potentiality. According to St. Thomas, prime matter is "pure potentiality" *(Summa Theologica,* I, q. 115, art. 1, ad 2'"; *Contra Gentiles, III,* c. 69). Strictly speaking, prime matter, taken by itself, cannot be said to exist or to be knowable; it is substance that, properly speaking, exists and is knowable. Matter exists and is known in connection with the form in the composite, substance *(Summa Theologica,* I, q. 15, art. 3, ad 3um; *De Veritate,* q. 3, art. 5). Of itself it has not actuality, but is in potentiality to the actuality of the substance which the substantial form will give it. For it to exist without substantial form is intrinsically impossible. *(Quodlib.,* III, art. 1). Its whole function in the constitution of bodies is to be the subject or substrate for the substantial form. It is called the first subject of all forms. It owes its origin to creation (on this point St. Thomas differs from Aristotle and Greek philosophy in general, according to which matter was eternal and unproduced); not that prime matter itself is the term of creation, or that which is created, but that its production is included in the creation of material substance which is the real term of creation. Prime matter is said to be *one,* not as owing its unity to the presence of one form, but rather as lacking all forms *(Summa Theologica,* I, q. 16, art. 7, ad 2um). In the changes that take place in bodies prime matter is neither brought into being nor destroyed, but remains to be the subject of new forms, as it was the subject of old forms.

Second Matter

Material substance, as composed of prime matter and substantial form, is called *materia secunda,* second matter, in reference to the further perfection of which it is capable. It is said to be in potency to the accidental perfections, accidental forms, which it is capable of receiving.

The Substantial Form

A form is that which actualizes a potency of matter. It is the act corresponding to the potency and fulfilling that potency. Forms are, therefore, of different kinds according to the differences of the potencies to which they correspond. The form which corresponds to the potency of prime matter is called the substantial form; that which corresponds to a potency of second matter is called accidental form. The substantial form is, therefore, the constituent of substance which actualizes the potentiality of prime matter, and along with prime matter constitutes material substance. It is ¿at which causes substance *formally,* i. e., by communicating itself as the determining element of the compound. It is, therefore, defined as that *by which* something is intrinsically determined. It determines the specific nature of the substance; it is the intrinsic reason why the substance is of one species rather than of another. "Substantial form may, then, be likened to a hidden architect within the composite unifying and actualizing its indeterminate co-principle into a determinate substance" (O'Neill: *Cosmology,* Vol. I, p. 112). It is owing to the substantial form that the material substance has a certain definite group of properties which serve to distinguish this substance from substances of other species. It is also in virtue of the substantial form that the substance has its proper activities, for, as St. Thomas says, "the substantial form is the first principle of action" *(Summa Theologica,* I, q. 77, art. 1, ad 4um).

Causality of Intrinsic Causes

The most familiar concept of causality is that of efficient causality. Hence we are inclined to think of all causality as if it were some form of activity like the activity exercised by the efficient cause. But the causality of the intrinsic causes is of a different order. It is a communication of reality, not an activity. Both the material and the formal causes contribute to the production of substance by communicating their reality to the substance as intrinsic constituents of it: the material cause as the determinable constituent, the formal cause as the determining constituent. It must, then, be borne in mind that the causality of the substantial form is formal causality; a communication of reality or actuality, not an activity. When the substance is once constituted of matter and form, it has its activities in virtue of which it takes the part of an efficient cause in regard to the production or modification of other substances, or even in regard to the modification of itself, as is the case with living things. These activities belong to the substance, not to the form ; but nevertheless the form is said to be the first principle of activity in a substance, because the substance derives its activities from the determination that is given it by the form.

Origin of the Substantial Form

In regard to the origin of the substantial form much confusion has arisen because, as St. Thomas says, many have mistaken the nature of the substantial form and treated it as if it were substance. Hence many thought that, as the new substantial form is a new reality, it must owe its origin to creation. Others held that the substantial forms actually pre-existed in a latent condition in matter, and that the production of the new form was simply bringing to light what previously existed, but in a hidden state. But the substantial form, since it is not substance, but only a constituent of substance, is

not the term or result of any form of production, whether creation or some other form. The term or result of any form of production is always substance; either old substance modified, or new substance produced. It is the new substance, or the substance newly modified that is properly said to exist, and hence that is properly said to be produced. The Greeks, including Aristotle, maintained that matter is eternal and unproducd ; but Scholastic philosophy teaches that the original material substances owe their origin to creation. The constituent elements of these substances, then, must be originally from creation, though it is the substance that is properly said to be created, and not its constituents. Supposing, then, the first creation of material substances, i. e., prime matter joined to certain forms (for St. Thomas held that prime matter could not be created apart from all forms), all subsequent forms that are to appear in matter pre-exist, not actually and in a latent state, but potentially only, in the potentiality of matter. The coming into actuality, therefore, of a new form is not a production, but the *eduction* of the actuality of the form out of the potentiality of the matter.

The Human Soul an Exception as to Origin

What has been said so far in regard to substantial forms applies in its completeness to all substantial forms whose whole function is to inform matter and be the determining constituent of material substance. But the human soul as a form, because of of its unique position among substantial forms, has attributes that are peculiarly its own. It is not educed from the potency of matter, but in every case owes its origin to creation. Other forms can exist only in conjunction with matter, but the human soul is capable of a separate existence, because its function is not merely to inform matter. It has activities that are independent of matter.

• See page 221 below.

Eduction of the Substantial Form

The process of the eduction of a substantial form from the potency of matter requires the action of an efficient cause on the substance that is to be changed. This action is in the way of alteration of the properties of the substance. Not every alteration demands the eduction of a new substantial form, but only such alteration as makes the continued residence of the old form in the substance impossible. Thereupon the new form replaces the old. There is nothing intermediate between the old form and the new, but the succession of the new to the old is instantaneous. As the new form is not created from nothingness, but educed from the potency of matter, so the old form, at the end of the change, is not annihilated, but reverts to the potency of matter.

Unity of the Substantial Form

According to the teaching of St. Thomas there can be in material substance only one substantial form. The substantial form, he says, gives to substance its existence and establishes it as a reality in the order of substance. But if the first substantial form has this effect in the substance, any second form which might be thought of as superadded, would find the substance already constituted as substance, and could give to it no more than an accidental perfection. Therefore any additional form could be an accidental form only. But to apply this teaching to the material substances of our experience, we should have to determine first of all whether the substance in question is really one substance and not rather an aggregate of substances. But supposing that a quantity, say of water, is really an aggregate of molecules, and that the molecule is the unit of physical substance, then the Scholastic theory, as ex-

plained by St. Thomas, would assert that there is in the molecule of water one and only one substantial form. Living beings have a unity which forbids us to look upon them as merely aggregations of cells, and hence the claim would be made that there is in the living being one and only one substantial form. Against this claim the objection can be urged that living beings can divide, as the cell does divide, and form separate individual living beings. But to this the obvious answer in terms of Scholasticism is, either that the form is divided with the matter, or that the action which causes the division of the material of the cell, causes also the eduction of a new form.

Hierarchy of Forms

Scholastic philosophy recognized a certain hierarchy of forms which is thus explained by St. Thomas (*Summa contra Gentiles,* III, 22):

> "Prime matter is in potency first to the form of the element; but when it exists under the form of an element, it is in potency to the form of the composite, wherefore the elements are the material of the composite; considered under the form of a composite, it is in potency to the vegetative soul, for a soul is an act of such a body. Likewise the vegetative soul is in potency to the sensitive, and the sensitive to the intellectual, as the process of generation shows; for in generation the foetus is first living the life of a plant, afterwards the life of an animal, and finally the life of man. Beyond this latter form there is not found in things that are generated, and corrupted a further or higher form. The highest step therefore of the whole process of generation is the human soul, and towards this matter tends as towards its ultimate form. The

◆St. Thomas, like all his contemporaries, meant by the elements the four: earth, water, fire, and air.

elements are therefore for the sake of the composite, but the composite for the sake of the living things, among which plants are for the sake of animals and animals for the sake of man, for man is the end of the whole process of generation."

3. The Proof of Hylemorphism

Argument for Hylemorphism from Substantial Change

Does substantial change occur? Are new substances produced from old? or is all change merely a modification in quantity or qualities, or some new combination or arrangement of the old unchanged elements? The answer of Aristotle and the Scholastics to these questions was the affirmation of the existence of substantial changes.

To prove beyond doubt the occurrence of such changes is not easy; but the evidence for them is clearer in the case of the living organism than in the case of non-living inorganic bodies. Carlxjn, oxygen, hydrogen and nitrogen are found in all living bodies as their chief chemical constituents. Yet the living body, e. g., the cell, acts as a unit and as a whole, and some of the activities of the living unit are certainly not the activities of these separate chemical elements, nor any resultant of their combined activities. To assimilate inorganic materials into the living organism, to grow by such assimilation, to be able to repair losses and injuries, to reproduce similar organisms, to experience sensations, these are certainly not the activities of the chemical elements, nor any resultant of their combined activities. To account for them it is necessary to think that in the change which has occurred the old substances have ceased to exist, and in their place there has come a new substance which is the subject of the new activities. For if anything can be known of the nature of bodies from their activities,

then the axiom, "Operatio sequitur esse," "A being's activities are in accordance with its nature," is the index to the nature of the subject acting in any case. When the new activities are entirely different from the old, and are unaccountable except on the supposition that a new substance has replaced the old, then we know that a substantial change has taken place and that a new substance has come into being, while the old substance has ceased to be. Assuming, then, the occurrence of substantial change as established by the above reasoning, let us state the argument for Hylemorphism in the following terms:

For substantial changes to occur it is necessary that:

1. at the end of the change there should be something substantial taken over from the former substance, and something substantial that is new;

2. that which remains over from the former substance should be of itself undetermined, but determinable, since it is found both in the old substance and the new; and that which is new in the end of the change should be of itself determinate and determining, since it is not owing to the old element, but to the new that this is a new substance.

But the reasoning given above establishes the occurrence of substantial change;

Therefore we must admit in material substances, which are subject to substantial changes, two elements or substantial constituent principles, an undetermined and determinable principle, prime matter, and a determinate and determining principle, substantial form.

Unless on the occurrence of substantial change something remained over from the old substance to be a partial constituent of the new, we should be compelled to admit that the old substance was entirely gone, was in fact annihilated, and the new substance was made, not out of something of the old, but out of nothing. This would be asserting that the new substance was created,

and would amount to a denial of change altogether, substituting for it a constant succession of annihilations and creations.

Summary

Hylemorphism holds that material substance, though compound, is a real *unum per se* endowed with active powers and passive potencies through which it works out, through an inherent tendency, its own perfection and the perfection of the material universe. For this end there must be in it, besides the common material principle, a determining principle to direct the activities to the proper end. These two principles are the prime matter and the substantial form, which are the essential parts of bodies. These parts cannot exist separately, yet they are really distinct. Prime matter is not anything determined; it is pure potentiality and can exist only in the compound along with the substantial form. Prime matter is not brought into being in change, but remains as the subject of new forms. The substantial form actualizes the potentiality of prime matter and is the intrinsic reason why the substance is of one species rather than of another. Because of it the substance has a certain definite group of qualities and its own proper activities. Matter and form thus cause substance by constituting it. The substantial form is not created, but educed from the potentiality of matter; though the human soul because of its peculiar functions must have a different origin. There is only one substantial form in a unit-body. The theory of Matter and Form is proved from the existence of substantial change in bodies.

Propositions to be Explained and Established

1. The constitution of bodies cannot be explained without admitting the *form* as an intrinsic determining principle.
2. Prime matter is mere potentiality.

3. Material and formal causes exercise their causality on an effect by constituting it.

4. The substantial form is not created, but educed from the potentiality of matter.

5. There is only one substantial form in a material substance.

6. Granting the existence of true substantial changes, Hylemorphism is the only theory that gives a satisfactory explanation of the constitution of material substance.

Points for Further Study

1. The Harmony of the Scholastic Theory with Facts. Cf. Mercier: *Manual,* I, 107-114.

2. Historical Development of the Theory from Aristotle to the Present Time. Cf. Mercier: *Manual,* I, 71. O'Neil: *Cosmology.*

References

Perrier: *The Revival of Scholastic Philosophy,* 82-109.

O'Neil: *Cosmology,* I, 106-115; 119-154.

DeWulf: *Philosophy and Civilization in the Middle Ages,* 199-210.

DeWulf: *Medieval Philosophy, 66-75.*

Windle: *The Church and Science,* 28-95.

Mercier: *Manual,* I, 73-107; 114-120.

CHAPTER XII

MATTER AND FORM AND THE ORGANISM

1. The Nature of Life

Life as a Problem for Metaphysics

The potentiality of matter is not exhausted within the range of inorganic substance. For matter, chemically the same as that which constitutes inorganic substances, is found also at the higher level of what we call organic life. Life, then, in terms of Scholastic philosophy, must be a form to which matter is in potency. And in terms of any philosophy, life is at the least a phenomenon which is found manifested in matter. As such it presents to Metaphysics a problem to be solved. Scientific observation, as well as ordinary experience, makes clear that the living organism, though sharing with the inorganic substance in the conditions and limitations of matter, still differs from the latter in certain very marked ways. But why it should so differ, or what is the ultimate reason for such difference, it belongs to Metaphysics to investigate and explain if it can.

Metaphysics must, therefore, begin with the data which biological science offers and from the characteristics of living things determine the nature of life itself.

Inductive Definition of Life

A definition of life, built up from an inductive study of living things, is given by St. Thomas:

> "Those tilings are properly called living that move themselves by some kind of motion. . . . Accordingly all things are said to be alive that determine themselves to movement or operation of any kind; whereas those things that cannot by their nature do

so, cannot be called living, unless by a similitude" (*Summa Theologica,* I, q. 18, a. 1).

"By vital operations are meant those whose principles are within the operator, and in virtue of which the operator produces such operations of itself (*Summa Theologica,* I, q. 18, a. 2, ad 2um).

An operation, the principle of which is within the agent and the effect of which remains within the agent, is called an "immanent action," as distinguished from the "transient" or "transitive action," the effect of which passes to something outside the agent. Thus, an act of thought is an immanent action. The cause which produces the act is something within the agent, the thinker, and the effect of the thought is in the thinker himself. The act of assimilating, found in organisms, is also immanent, because the effect of the act is found in the organism itself. With this understanding of the terms the Scholastics formulated their definition of life in general as, "the power of immanent action;" and of organic life as, "the power of an organism to act immanently," i. e., to produce effects that will remain within the organism itself. By an organism in this connection is meant a material substance having parts designed for specific functions. The parts of an organism have a dependence on the whole that is not found in the parts of an inorganic substance. In the inorganic substance the parts are separable and capable, when separated, of existence as complete substances. But in an organism the part is for the whole in a more strict sense, and is not capable of functioning as a separate existent. Moreover, the parts of an organism are not homogeneous, as the parts of the inorganic substance are. Thus when a piece of gold is divided, each part is like any other part and like the whole; it is homogeneous with the other parts and with the whole. Besides each part is as capable as the whole was of separate existence as a complete substance. But this is not the case with the parts of an organism.

The parts are heterogeneous, unlike each other and unlike the whole, and incapable of maintaining a separate existence.

Characteristics of Living Organisms

Accepting this definition of organic life as being justified by our ordinary experience, we can now proceed to examine what scientific observation finds to be the characteristics of living organisms. These characteristics may be grouped as follows:

1. Motion:
   a. of particles within the organism itself;
   b. of the whole organism from place to place; the movement of translation.
   c. movement against a current; in most unicellular organisms this pecularity of movement is observed.
2. Irritability, i. e., the power of responding or reacting to a stimulus.
3. Assimilation, i. e., the power of taking in material from the outside and building it into the structure of the organism. Food is changed into substances suitable to the uses of the living being and waste is got rid of. This process is called metabolism, and is either:
   a. anabolism, i. e., less complex and more stable compounds are built up into more complex and less stable compounds;
   b. catabolism, i. e., complex and less stable structures are broken up into simpler and more stable compounds.
4. Respiration, i. e., an interchange of gases between the organism and its environment.
5. Reproduction, i. e., the production of other living organisms of the same kind.
6. Repair, i. e., the capability of the organisms, within

certain limits, to restore parts of the organism which have been injured or removed.

7. Death, i. e., the dissolution of the organism. It does not seem necessary that a cell should die; but it may be killed.
8. Organization, i. e., the arrangement and adaptation of the elements or parts of a living organism so as to produce a certain result.

These operations are characteristic of all living organisms; but characteristic of some higher organisms is:

9. Sensation, i. e., the capability of the organism to receive a conscious impression from an object.

2. The Explanation of Organic Life

Theories of Organic Life

With these data on hand the philosophy of the organism must undertake the task of finding some principle in the organism that will account for these characteristics and so explain the difference between the living and the non-living. Such a principle, if found, will answer for us, as far as it can be answered, the question, "What is life?" For life is observable by us only in its activities, and consequently can be known by us only as that which acts in such characteristic ways. Whatever is the explanation of the characteristic activities of the living organism, that is the explanation also of the phenomenon which we call life in the organism.

The attempts that have been made to account for the characteristic activities of living things have resulted in two groups of theories, the mechanical and the vitalistic. Under the head of mechanical we include all those explanations which find in living things nothing new, nothing that has not already been found operating in the realm of the inorganic. Under the head of vitalistic are embraced all explanations which

do find in life something new, whether they call this new thing an energy or a force, a principle or a form.

Mechanical Theories of Life

That beings arc not to be multiplied without necessity, is a long-recognized rule of philosophic thinking. It would, therefore, be in accordance with this principle of economy and in the interest of simplicity, if we could find it possible to account for all material activity—whether vital or not—by the operation of the same forces and laws; or if we could accept the statement of Huxley, that,

> 'the whole world, living and not-living, is the result of the mutual interaction, according to definite laws, of the forces possessed by the molecules of which the primitive nebulosity of the universe consisted" (Belfast Address).

This is, in fact, what mechanical theories of life aim to do: to unify all the processes of nature and thereby to simplify the explanation of them. In these theories the organism is only a more complex aggregate of ultimate particles of matter—a physico-chemical machine ; and life, like every other phenomenon in nature, is explained by matter in motion—by the integration and redistribution of matter and energy. But it is always the same matter and the same energy that has been dealt with in physics and chemistry. They do not admit that anything new has entered in on the level at which life makes its first appearance, or at any upper level at which higher kinds of life appear.

Reasons for a Mechanical Theory of Life

A mechanical theory of life fits in with a materialistic philosophy, as also with the more extreme forms of evolution. This fact accounts for much of its vogue. In modern times, however, the mechanical

explanation of life owes its origin to Descartes, who was not a materialist. With Descartes mechanism was a result of his idea of the nature of substance. Having placed the essence of matter in extension and the essence of mind in thought, he could not find anything but matter and the movement of matter in organic life, since he failed to find thought there. The animal, not being capable of intellectual thought, could not be anything but matter, and hence a mere machine or automaton. Later developments in anatomy and physiology tended to emphasize the mechanical side of the organism and to give apparent confirmation to the "matter and motion" idea of life. Moleschott, Vogt and Büchner adopted it in their materialism. After Darwin's time a wide popularity was won for mechanism, because it seemed to fit in with a philosophy of the organism that dispensed with the idea of design in nature.

The upholders of mechanical theories urge in their favor the requirements of the Law of the Conservation of Energy, that the sum of energy in the universe must remain constant. This law, they contend, is jeopardized if the organism introduces a new form of energy which would be added and subtracted as life comes into being and is destroyed. But to this argument the obvious answer is that, in the first place, the law of the Conservation of Energy has no *a priori* necessity, as far as we know, but is only a generalization which is found to hold, at least approximately, within the range of mechanical, physical, and chemical forces. It would not have lost its value even if it were shown not to hold in regard to living things. And secondly, a vitalistic theory of life does not need to hold that life is an energy. Life uses mechanical forces for its purposes and gives direction to them; but it does not add to nor take away from them.

Reasons for Rejecting Mechanism

Grounds for rejecting mechanism as an explanation of life can be found in all the characteristic activities of life. The following will be sufficient to indicate the insuperable objections that lie in the way of accepting such an explanation:

1. The peculiar manner of assimilation and growth of an organism compared to the growth or increase of an inorganic substance. The inorganic increases by external accretion: more matter is added on the outside; but the organism grows by intussusception: by taking new matter into its own structure and replacing the old and worn with the new.

2. The phenomena of reproduction. The organism can produce another organism of the same kind. No inorganic substance or mechanical contrivance can do this.

3. The power of repair and regeneration. As an example of the extent to which an organism can effect such regeneration, Spallanzani removed all four legs and the tail from a salamander six times during one summer.

4. Adaptability to different conditions and surroundings. A machine is capable of one or a few motions, and these always in a definite manner and direction. It cannot take up new motions to suit new conditions, as an organism can, nor can it re-adjust its parts to meet new requirements.

The impossibility of explaining such and other operations of organic life in terms of mere matter and motion has led later mechanists (for whom Haeckel may stand as an example) to attribute to all matter activities which we have been accustomed to look upon as activities of life. Thus they would do away with all differences, except some difference of degree, between the living and the not-living. Organic life

would then present no special problem, since what we thought were the properties of life would be made common attributes of all matter. Haeckel says:

> "Every shade of inclination, from complete indifference to the fiercest passion, is exemplified in the chemical relations of the various elements towards each other. . . . On these phenomena we base our conviction that even the *atom* is not without a rudimentary form of sensation and will, or, as it is better expressed, of feeling (aesthesis) and inclination (tropesis)—that is a universal 'soul' of the simplest character." (Quoted by Lodge: *Life and Matter,* 41.)

Lodge calls this claim a "grotesque assertion," and we need only add that it has no reason nor evidence to support it beyond the need of maintaining an impossible mechanical theory.

Vitalism and Neo-Vitalism

Opposed to the mechanical theories of life is the explanation called Vitalism. It maintains that the phenomena of life cannot be explained without admitting something over and above the physical, chemical and mechanical forces of inorganic nature; that life is not due merely to these forces, nor to any arrangement or organization of these forces. It holds that the living being differs essentially and not merely accidentally from the not-living, and that, therefore, life must be due to something that is essential and substantial in the living being, to a substantial principle which is called the principle of life, or the soul. This is vitalism as held in Scholastic philosophy.

Applying the Scholastic theory of the constitution of bodies to the phenomena of life, Scholastic philosophy holds that the organism, like every material substance, is composed of matter and form, and that

the life principle or soul is the form. The life principle, therefore, is not a force or an energy, but a formal constituent. Its function is to determine the matter of which the organism is composed to the mode of existence that belongs to living things. The matter, of itself, has the potentiality of life; the life principle, as form, actualizes this potentiality. As form, too, the life principle is the source of all the activities which are characteristic of life, and it is the intrinsic principle of finality in the organism guiding and directing all its operations to the purpose of the whole. From the form, also, the living being has its unity as an organism, so that it is no mere aggregate of material particles, or mere colony of cells living individual lives, but an *unum per se,* one organized whole. The organism is, then, no mere machine, for its has within itself the principle of its own activity, and this principle uses and directs the physical and chemical forces which are operating in the organism so that they can perform the functions which are characteristic of life. Previous to the existence of the living organism the life principle, or form, existed in the potentiality of the matter, and thence it was educed by the action of a cause which was capable of producing life. At the death of the organism it reverts again into the potentiality of the matter.

Neo-vitalists find the mechanical theory of life inadequate and reject it. They hold that the explanation of the phenomena of life requires the admission of something over and above the forces of inorganic nature, while they do not go all the way to the admission of the Scholastic principle of life. Driesch calls the life principle an "entelechy," deriving the term and the idea from Aristotle. Others call the "something over and above" a biotic force or energy.

Reasons for Requiring a Life Principle in Organisms

Vitalism is not merely a beneficiary of the bankruptcy of mechanism. Nor is it, as is sometimes claimed, a merely verbal explanation, a mere word to cover up our ignorance of what life is. The unity of the organism and the purposiveness of its activities point to the existence in it of a principle of unity and purposiveness. Though the simple organism is composed of many particles of matter and the higher organism is made up of a multitude of cells, yet there is in the operations of the organism a clear unity of purpose. The parts arc subordinated to the whole, and the operations of the parts are for the good of the whole. It cannot be chance or accident that the operations of many parts invariably work out the purpose of the whole. Yet the organism could not be built up or continue to exist if they did not so work out. Therefore there must be in the organism, as an explanation of this purposive unity some principle other than the matter of the organism, and this principle, from its unifying and directing activity, shows itself to be fulfilling the functions of the form.

The Principle of Organic Life Not Spiritual

The formal principle of organic life is not looked upon as spiritual by Scholastic philosophy. It is wholly dependent on matter for its being and for its operations. To be spiritual it would need to have some independence of matter in at least some of its operations, and it would, therefore, be capable of a separate existence. But the forms of organic life act only in connection with matter and as dependent on matter. Apart from matter they could not act and consequently neither are they capable of existing apart from the matter in connection with which they are found acting. Therefore they are in no sense to

be regarded as spiritual. They may, however, be simple, in the sense of being unextended, and this the unity of operation in the organism seems to require.

3. The Origin of Organic Life

Relation of Metaphysics to the Fact of the Origin of Organic Life

The subject of the origin of organic life is concerned with a matter of fact. The answer to questions of fact Metaphysics is not competent to give, except indirectly, inasmuch as it may show whether the alleged fact is, or is not, compatible with reason. In a universe subject to reason, that which is repugnant to reason can not have happened; but the compatibility of an alleged fact with reason would demonstrate its possibility only, not the truth of its occurrence.

Actually we find some matter living. To conclude, then, that under certain conditions and in certain of its forms matter has the potentiality of life, is entirely legitimate, according to the axiom: *ab esse ad fosse valet illatio,* reasoning from fact to possibility is valid. But equally valid is the axiom that no potentiality can reduce itself to actuality. Therefore the possession by matter of the potentiality of life is by itself no sufficient explanation of the actual occurrence of life. For the potentiality of life to have been actualized at any time, it was necessary that there should exist some actual being capable of making that potentiality actual. And, too, this actual being must itself have been in possession of life, at least equivalently, for so the principle of causality requires, that there should be found nothing in the effect which did not pre-exist, at least equivalently, in the cause.

Further than this, reason cannot go in the demonstration of facts. For the rest, the truth of the occurrence of any fact must rest on the evidence supporting it, and

the evidence must be derived from experience or testimony. Where sufficient evidence for the fact is wanting, the question of its occurrence remains unanswerable as far as reason is concerned, and we must content ourselves with the discussion of its possibility.

Biogenesis and Abiogenesis

In considering the origin of organic life it will be helpful to separate the question of the production of organic life at the present time from the question of its original appearance in the universe. In regard to its production at the present time, all the evidence of extensive experimentation and research goes to show that life is not produced except from previous life. *Omnis cellula ex cellula,* every cell from a previous cell, is the verdict which modern investigation has arrived at. This is the doctrine of Biogenesis—life from previous life. Yet the opposite doctrine of Abiogenesis, or spontaneous generation, had held unquestioned sway from as far back as the time of Aristotle to the 17th century. That certain lower forms of life were produced spontaneously without the intervention of previous life, was the accepted explanation of the appearance of living things in decomposing organic matter. This belief was based on apparent evidence, but in reality on ignorance of the existence of microscopic life. Harvey was the first to proclaim the doctrine of Biogenesis, and Redi, an Italian, first showed, in 1698, that the forms of life that appeared in decaying meat were produced from the eggs of flies. During the 18th century a controversy was carried on between two Catholic priests, Needham, who maintained spontaneous generation, and Spallanzani, who denied it and who was able to show that if the infusions, in which life had apparently been found occurring spontaneously, were previously boiled and afterwards hermetically sealed, no life would appear in them. This line of experimentation was carefully worked out by Pasteur

during the 19th century and the occurrence of spontaneous generation definitely disproved. Yet materialistic philosophy must cling to it as a possibility at least, for it cannot otherwise account for the appearance of life without admitting creation. Thus Weissmann declares: "Spontaneous generation in spite of all vain efforts to demonstrate it, remain for me a logical necessity."

We must keep in mind, however, that the experiments of Pasteur have proved the non-occurrencc of spontaneous generation, not its impossibility. If matter under certain conditions has the potentiality of life, there does not seem to be any intrinsic reason why there could not be some cause within the limits of created nature capable of reducing this potentiality to actuality. That there was such a cause, the medieval Scholastics certainly thought; and it is worthy of remark that their belief in spontaneous generation of lower forms of life was no obstacle to their belief in the necessity of creation as the ultimate explanation of the origin of everything in the universe.

And, therefore, when we come to the consideration of the question of the first appearance of life in the universe, it will be clear that reason alone cannot disprove the possibility that the first appearance of life was due to the action of some created cause. Reason can show, as was indicated above, that the potentiality of matter cannot actualize itself, and that in this sense spontaneous generation is impossible. But it cannot show that in the conditions existing in former stages of the formation of the universe there may not have existed some cause sufficient to actualize in matter the potentiality of life. Metaphysics can only conclude, therefore, that for the beginning of life in the universe, either some cause within the limits of created nature was operating which, apparently, is not acting now, or that the first production of life must be traced to the direct intervention of God. We do not know of any cause, except the direct

intervention of God which could so actualize the potentiality of matter.

> It is, of course, needless to observe that no light is thrown on the original production of life by the claim sometimes made that life began in some remote comer of the universe and was carried to our earth on the cosmic dust. This is only pushing the difficulty of the origin further off, and making, if anything, more of a mystery of it than need be.

4. Grades of Life—Evolution

Distinction Between Animal and Plant Life

Among living beings it is necessary to recognize different grades of life as well as differences in kind within the same grade. St. Thomas tells us:

> "In earthly beings there are four kinds of living things. It is the nature of some to be capable of nothing more than taking nourishment, and, as a consequence, growing and generating. Others are able in addition to feel, as we see in the case of shell-fish and other animals without motion. Others have the further power of moving from place to place, as quadrupeds have and birds and other perfect animals. Others, as man, have the still higher faculty of understanding." (*Summa Theologica,* I, q. 18, a. 2, ad 1u".)

It is more usual, however, to make a threefold division of life, and to recognize only two distinct grades of organic life: plant life and animal life. It is clear enough that there is a distinction between these two grades of life, and in the higher forms of animals and plants the distinction is easily discernible. This difference Scholastic philosophy made to consist in the fact that the animal has the power of sensation while the plant has not. But when we come to the lower types of

animals, it is difficult, if not impossible, to show that they have the power of sensation. It begins to look, then, as if there is no absolute line of demarcation possible, or at least that there is not any characteristic of animal life that is discernible in all animal forms.

Some differences between animals and plants which scientific investigation has pointed out are the following:

1. in composition: the essential elements of both are: carbon, hydrogen, oxygen and nitrogen. Characteristic of plants (though not absolutely so) arc: cellulose (woody fibre), starch, chlorophyl, dextrin. Charistic of animals (though again not absolutely so) are: albumen, fibrin and gelatin. Carbon predominates in plants; nitrogen in animals.

2. in external shape: on this point there is no general characteristic of any value. Many plants and animals are indistinguishable in external shape.

3. in structure: a plant is a multiple of the unit—the cell—with cell-walls of cellulose. Some animals have similar structure, and all animals have it while forming; but this characteristic is permanent in plants; transitory in animals. Excepting in the lowest forms animals arc more complex and more highly specialized. Repetition of similar parts is characteristic of plants; differentiation and specialization of parts is characteristic of animals.

4. in nutrition: after the embryonic stage plants feed on mineral matter, animals on organic matter.

Just how significant these distinctions may be for a knowledge of the difference between plant and animal life is not evident; but the existence of sensation in the higher animals and its absence from even the highest forms of plant life is surely important. On this Scholastic philosophy founds its assertion of the essential difference between the animal and the plant. Sensation in the animal is something new. It is something of which the plant does not possess even the rudiments.

It marks the animal off as something different in the world of organic life.

Species in Organic Life

Keeping within the limits of either the plant or the animal life we find in both grades organisms distinguishable and divisible from one another by certain clearly marked differences, the unit of division being the species. Darwin said that the idea of species is indefinable; and it must be admitted that it is not possible in all cases to tell whether a given group of organisms forms a distinct species or not. Yet groups of organisms are often sufficiently separated by well-marked differences to enable us to set them apart as a distinct species, and to provide us a foundation for a definition of species in a biological sense as, "the smallest group of individuals which can be defined by distinct characteristics, and is separated by a gap from all other like groups." (Orton: *Comparative Zoology,* 235.) Now for the systematic sciences organisms are conveniently sorted into groups and subgroups according to species and the subdivisions of species. But the student of organic life will want to know whether this classification is an arrangement imposed on nature for the convenience of our thinking, or whether it really represents essential differences in nature with impassable gaps between organisms of different kinds. Are there fixed species in nature to correspond to the fixed species of our sciences? Out of the question of fixity or probable transformation of species has grown the whole discussion about Evolution.

Fixism and Transformism or Evolution

Is the ascent of life from the lowest forms to the highest to be pictured as a stairway-like arrangement with something new introduced at each higher level, or is it to be thought of after the fashion of an inclined plane with the lower ever imperceptibly merging into the

higher without any notable interruption of the even ascent? Or is it, perhaps, the case that neither one of these figures gives the whole truth about reality? St. Thomas had observed how the lower treads upon the heel of the higher:

> "We always find the lowest in the higher genus touching the highest of the lower genus: thus some of the lowest of the animal kind scarcely surpass the life of plants, such as oysters which are immovable, have only the sense of touch, and are fixed to the earth like plants. Hence Blessed Dionysius says (Div. Norn. 7) that *Divine wisdom has united the ends of the higher things with the beginnings of the lower.*" (*Contra Gentiles,* II, 68.)

St. Thomas has here anticipated the modem principle of continuity which is the key to so much evolutionary thought. Yet he did not therefore reject the fixity and permanence of forms, any more than he would fail to recognize the radical difference of day and night though they merge into each other at twilight. A certain continuity in nature we must recognize, and it may easily suggest the possibility of the development of the higher from the lower; but it is still intelligible even in a world of fixed species, if we are willing to see in it evidence of design and plan.

In the machines man makes there is development without descent. The original forms are usually what we should call the lower forms if we were to speak in terms of evolution. They are cruder and clumsier, partly, perhaps, because the idea of them was only imperfectly grasped by the maker, but partly also because his skill was undeveloped or because he had not as yet discovered the materials in which his idea could be best worked out. Thus, from the original Baltimore and Ohio locomotive to the most modern type we have an example of continuous development in which the crudities of the lower forms have been gradually displaced and the machine

has been more and more adapted to the work it has to do. Surely there is evolution here, though not by descent. If not in the idea, at least in the expression of the idea there has been development, as the materials available for such expression have been improved and as the demands for greater power and speed have become urgent.

What prevents us, then, from thinking that, even apart altogether from the idea of descent, the fact that we find "the lowest in the higher genus touching the highest in the lower genus" is evidence of design on the part of the Creator to work out a systematic unity of the universe by providing that the potentialities of matter should be actualized, not all at once, but gradually, as the needs of a growing universe require? There will be development here, though not, of course, in the Creator's idea of the universe, but in the expression of that idea, according as the stage of evolution the universe has arrived at is suitable to the unfolding of new potentialities of matter. It will be objected, it is true, that this is bringing in the intervention of the Creator in what should be explained as a purely natural process. But on the other hand, any mere theory of descent that leaves out the intervention of the Creator will always labor under the difficulty of finding more in the product (the higher form) than was in the factors. Life from the non-living, sensation from the non-sensitive, reason from the non-rational—these, at least, are products that contain more than their factors can have given them, if the intervention of the Creator is left out.

Theories of Transformism or Evolution

Evolution means no more than development. It is divided into *ontogenetic* evolution, or the development of the individual organism, about which there is no dispute; and *phylogenetic* evolution, or the development of existing species from one or a

few original types. This latter form of evolution is the subject of the evolution controversy, and the field in which the various theories, such as Darwinism, Lamarckism, etc., have grown up. Ontogenetic evolution is a fact; phylogenetic evolution might be a true interpretation of nature even though all special theories of evolution were shown to be false. We must be careful to avoid the mistake of confounding the idea of evolution with Darwinism or any other special theory.

The idea that the species of organic beings are fixed and unchanging held practically undisputed sway in scientific opinion up to the beginning of the 19th century. The oldest scientific theory of any importance in support of Transformism or the development of species is that of Lamarck (1809). Lamarck held that in regard to plant life environment was the direct cause of the development of new species, but that in regard to animal life environment created new wants and new activities, and thus new habits and instincts were developed, causing certain organs to be strengthened by use and others to be atrophied by disuse. Acquired characteristics, he held, were transmitted by inheritance. Darwin's book, *The Origin of Species by means of Natural Selection, or the preservation of favored races in the struggle for life,* appeared in 1859, and his theory was soon widely known and accepted. According to his theory organic beings tend to vary indefinitely in all directions, and these variations are cumulative. Species are transformed by "the preservation of such variations as arise and are beneficial to the being under its conditions of life." This survival of the favored being is "natural selection," or, as it was called later on by Spencer, "the survival of the fittest." In the Darwinian system it is the principal factor in evolution

of species. Prominent among Darwinians were Wallace, Huxley, Spencer, Haeckel and Weissmann, the last mentioned of whom holds that acquired characteristics are not transmitted, but that "every individual and specific character that may be transmitted by heredity is pre-formed and pre-arranged in the architecture of certain ultra-microscopical particles composing the chromatin of the germ-cells." Such a claim, is, of course, utterly impossible of verification. Darwinism exercised an enormous influence over the thought of the latter half of the 19th century. Of late the insufficiency of "natural selection" as the main factor of evolution has been more apparent and other theories have been offered as substitutes, such as the Mutation theory of DeVries and the Emergent Evolution of Morgan.

Metaphysical Aspects of Evolution

In a textbook of Metaphysics it is neither possible nor necessary to enter into details of the systems of evolution. We are concerned solely with the question: Is the theory of evolution, in the sense of the development of species by descent from one or a few original types, acceptable to reason? For a theory of any kind to be acceptable it is required that it should not be inherently unreasonable, and that it should account for the facts it was constructed to explain. The interest of Metaphysics, however, is rather with the first of these requirements. Is there anything against reason in the hypothesis that higher forms of life have been developed from lower by descent? The principle of causality demands that the cause must equal the effect. Therefore if we are to admit the possibility of the development of the higher forms from the lower by way of descent, there must have been in the antecedents of the higher forms a cause adequate to produce them. Granted the existence of such

a cause, there is nothing inherently unreasonable or contradictory in the hypothesis of evolution. But if the further question is asked: "Is there such a cause?" the short life of the special theories of evolution, each of which attempted to assign an adequate cause for the transformation of species, supplies the answer that, as yet, at least, no such cause has been found.

When we come to man and his place in the scale of being, we are no longer concerned with a mere organism. We have passed beyond the sphere of the merely material, and we encounter a contradiction if we try to think of the spiritual as developing out of the material, or of intellect as being evolved from sense.

Summary

Life, as the power of immanent action, makes the organism essentially different from the inorganic substance. It is, therefore, no mere arrangement or organization of matter, and no mere resultant of physical forces, but requires for its explanation the presence in the organism of a principle which is determining, unifying and directing. Mechanical theories of life are, therefore, inadequate, and Vitalism must be admitted. Life at present originates from previous life only; hence the conclusion of science is that spontaneous generation does not occur. The beginning of life in the universe required some cause to actualize the potentiality of matter for life, and we know of no such cause except the direct action of God. In the grades of organic life, animal life is essentially different from plant life. Within the grades of life there exist groups of organisms which are called species and are separated by a gap from other similar groups. Evolution holds that these gaps are not impassable, and that existing species have been developed from one or a few originals. The theory of evolution, while not necessarily contrary to reason, has not been able to

assign an adequate cause for the development of the higher species from the lower.

Propositions to be Explained and Established

1. There is an essential difference between the living and the not-living.
2. Mechanical theories are inadequate to account for the characteristic activities of organic life.
3. The living organism is composed of two substantial principles: matter and the life principle or form.
4. All life is from previous life.
5. For the beginning of life in the universe there was required some cause to actualize the potentiality of matter.
6. By possessing sensation animal life is distinguished essentially from plant life.
7. Evolution, though not necessarily repugnant to reason, does not provide an adequate cause for the transformation of species.

Points for Further Study

1. The teaching of St. Thomas on life. Cf. *Summa Theologica,* I, q. 18, a. 1, 2.
2. Homology as an argument for Evolution. Cf. O'Toole: *The Case Against Evolution,* 31 sq.
3. The Origin of the Human Body. Cf. Wasmann: *Modern Biology and the Theory of Evolution,* 443 sq. O'Toole: *The Case Against Evolution, 268* sq.

References

On Life

Windle: *What Is Life,* 111-144.
Windle: *The Church and Science,* 290-315.
Dwight: *Thoughts of a Catholic Anatomist,* 118-147.
Catholic Ency.: Art. "Life."

Pyne: *The Mind,* 86-96.
Mercier: *Manual,* I 165-178.

On the Origin of Life

Wasmann: *Modern Biology and the Theory of Evolution,* 193-208.
O'Toole: *The Case Against Evolution,* 131-188.
Windle: *The Church and Science,* 316-324.

On Evolution

Wassmann: *Modern Biology and the Theory of Evolution,* 251-306.
O'Toole: *The Case Against Evolution,* 1-30.
Dwight: *Thoughts of a Catholic Anatomist,* 41-65.
Catholic Ency.: Art. "Evolution."

CHAPTER XIII

MATTER AND FORM AND HUMAN LIFE

1. The Human Soul as Form

The Human Compound

There are in the human being activities that belong to the purely organic order, such as assimilation and growth. Likewise other activities range man with the world of animal life, activities like sensation and spontaneous movement. But over and above all these, are activities of a newer and higher order, which show the existence in man of the power of reason and free choice. Different as these activities are, they are all the activities of the one human being; and this being must, therefore, be possessed of a nature that is manifold in its unity. It must have equivalently all that belongs to plant and animal life, while possessing at the same time the power of rising above the material and knowing and desiring the immaterial. How can such unity in diversity be accounted for?

The Answer of Scholastic Philosophy

Scholastic philosophy answers the question by telling us that human nature is a compound nature and the human being a compound substance; that the constituents of this compound substance are an organic body and a spiritual soul, that stand to each other in the relation of the matter and the form in a compound. The human substance, so composed, is a real unity, an *unum per se,* making of the human being one nature and one person. In virtue of its possession of an organic body it can exercise all the operations proper to organic life, and because of the spiritual soul it is capable of performing

intellectual operations as well. Through the organic body it belongs in the category of material things; but the spiritual soul performing the function of substantial form in the compound, determines the body to be a human body and constitutes the human nature of man. Without the soul the body would not differ essentially from other animal bodies. Chemically its constitution is the same; anatomically its architecture differs only in detail. It is the soul that determines this compound being to be man.

> "The nature of each thing is shown by its operation. Now the proper operation of man is to understand; because he thereby surpasses all other animals. . . . Man must therefore derive his species from that which is the principle of this operation. But the species of anything is derived from its form. It follows therefore that the intellectual principle is the proper form of man." *(Summa Theologica,* I, q. 76, a. 1.)
>
> "A thing is not less one that is composed of an intellectual substance and corporeal matter, but perhaps more so; since the more a form overcomes matter, the more one is that which is made from it and matter." *(Contra Gentiles,* II, 68.)

Other Theories of Human Nature

Failure to recognize this unity of the material and the spiritual in man has led to much misunderstanding of human nature and many unsuccessful attempts to explain the union of opposites in man. These attempts have resulted in the refusal to find in human nature any substantial constituent except the organic body; or in the rejection of the spiritual side of human nature altogether; or finally in the denial of any real unity in man. To understand, then the Scholastic explanation of the nature of man in contrast with the other explanations offered, it will be necessary for us to examine into:

The substantiality of the human soul;
Its simplicity and spirituality;
The manner of its union with the body.

2. The Substantiality of the Soul

The Meaning of the Substantiality of the Soul

In attributing substantiality to the soul we mean to assert that the ultimate principle of our conscious life—that by which we think and feel and will—belongs to the order of substance. We do not mean to claim that it is a complete substance in itself, but only, as will appear from the discussion of the union of the soul and body, that it is a substantial constituent principle of human nature. This is what St. Thomas means when he tells us *(De Anima, quest, unica,* a. 1, ad 3um) that the soul is not substantial in the sense of possessing a complete specific nature in itself, but in the sense of being part of that which does possess a complete specific nature.* This position is denied by all who call in question the validity of the notion of substance.

The Denial of Substantiality

Of these Hume is the leader in modern times. Of the idea of substance he says *(A Treatise of Human Nature,* bk. I, part I, sec. 6): "The idea of substance is nothing but a collection of simple ideas, that are united by the imagination, and have a particular name assigned to them." And, speaking of the self *(ibid,* part IV, sec. 6), he tells us that it is "nothing but a bundle or collection of different perceptions, which succeed each other with an incredible rapidity, and are in perpetual flux and movement." And of the mind *(ibid.)*: "They arc the

*"Anima humana non est hoc aliquid sicut substantia completam speciem habens; sed sicut pars habentis speciem completam."

successive perceptions only that constitute the mind." With little show of any fresh investigation and as if there were something final about it, this analysis of Hume's has been taken up with slight modifications by subsequent empiricists. Thus for Mill mind is but a series of feelings that is aware of itself as a series, and according to Wundt: "Our mind is nothing else than the sum of our inner experiences, than our ideation, feeling and willing collected together to a unity of consciousness." (*Human and Animal Psychology,* lect. 30, no. 5.)

Professor James rejecting the "collection" and "series" ideas of his predecessors, substitutes for them his Stream of Thought theory, in which the present thought is the thinker; "The I or Self is a thought at each moment different from the last moment, but *appropriative* of the latter with all the latter called its own." (*Principles of Psychology,* I, 401 ; italics in original.)

On other grounds, but no less decisively, Kant rejects the substantiality of the soul; and again much modern thought has accepted Kant's criticism of this and other ideas as if it were final and not subject to revision. Kant distinguished, as is his wont, between the noumenal Ego and the phenomenal Ego. Of the noumenal Ego, the soul-in-itself, we can have no knowledge; and the phenomenal Ego, which we can know, is not the real subject of our mental life, but only a logical subject. And so, in Kantian philosophy, the soul itself, like every other noumenon, or thing-in-itself, remains forever out of the reach of our knowledge.

Criticism of the Opponents of a Substantial Soul

This denial of the substantial nature of the human soul is not made on metaphysical grounds, but for reasons connected with the theories of knowledge held by these

opponents of the substantial soul. The empiricists do not admit any essential difference between intellect and sense. Now if there were no knowledge except sense knowledge, it would not be possible to know anything about substance, nor would there be any reason to assert the existence of substance, and the same would apply to all other abstract ideas. All I could know would be the concrete fact: I think, I feel, I will. I have no more right to abstract the "thinking," "feeling," and "willing" from the "I" and speak of groups or collections or series of "thinkings," "feelings" and "willings," than I have to abstract the "I" from the "thinking" and think of it as the subject of the mental activities. If the latter process is invalid, so is the former. The mental activity by itself is just as much an abstraction as the substance.

Kant denies the validity of substance for the world of things-in-themselves, because his criticism of the process of knowing finds in it a formal element which is purely subjective, besides the material element which is derived from sensation. This subjective element or form is part of all our knowledge, he claims, and therefore our knowledge cannot be said to hold good for the thing-in-itself (the noumenal object), but only for the thing-as-it-appears to us (the phenomenal object). But again this criticism attacks not only the validity of the substantial soul, but also the validity of all knowledge of things-in-themselves. Kant's claim *of* the existence of *a priori* mental forms which are purely subjective is arbitrary and is not founded on any genuine psychological analysis of the conditions of knowledge.

Reasons for Admitting the Substantiality of the Soul

1. From Internal Experience: Internal experience makes us aware of ourselves as acting. It does not present to us a thought or other activity by itself and unrelated to the self which we are aware of as the subject of our mental activity. The immediate judgments made

on internal experience are: "I think," "I feel," "I will." Therefore not only the thought, but the subject thinking is the real datum of internal experience. Therefore the idea of a thinking substance as the subject of internal activities is valid as based on internal experience.

2. From Memory: In memory I recall and recognize a mental state as something that has been experienced before. Now the present thought or present mental state has not had that former experience and consequently could not recall or recognize it as having been experienced. Neither did any group or collection or series of my mental activities have this remembered experience. Moreover a group of mental activities or a series of mental activities cannot be the subject of a present real experience such as the act of remembering. For the group or series is itself mostly unreal. The only reality about it is the present thought, and the present thought, as even James admits, cannot remember a past thought

3. The Simplicity and Spirituality of the Soul

The Simplicity of the Soul

When we speak of anything as simple we mean to exclude from it some kind of composition of parts. It is metaphysically simple if it excludes all composition and all possibility of composition. If it admits the composition of substance and accidents, but excludes all other composition, it is said to be physically simple. Metaphysical simplicity can belong to that being only which is all actuality and has not potentiality, and consequently only to God. For the human soul we can claim no more than physical simplicity, i. e., a simplicity which excludes composition of essential parts and of integral parts or parts of extension. A simplicity which excludes composition of essential parts, but admits composition of parts of extension, is attributed to lower substantial forms.

Now the human soul, though it will have the compo-

sition of substance and accident, i. e., the composition of the soul itself with its own activity, must nevertheless be physically simple in the sense defined above. For as the principle of the intellectual life in man it is the principle of simple and indivisible activities, such as abstract thought. Unlike the image in the imagination, the abstract thought cannot be extended, and cannot, therefore, be inherent in an extended principle. It cannot be thought of as inhering in the extended principle by being extended over the whole of the extended principle, since the abstract idea, having no parts, is incapable of extension. Neither can we think of the unextended idea as inhering in a single part of the extended principle, for the part of the extended principle would itself be extended, and the same objection would recur. There remains, therefore, no alternative except to admit that the principle of a simple activity must itself be simple.

The Spirituality of the Soul

We know that a thing is a spiritual being, not by directly perceiving its spirituality, but by deducing its spirituality from the character of its activities. Such activities as will serve as the distinguishing marks of a spiritual being must be recognizably different from the activities of matter and must be in some way independent of matter. Now dependence of an activity on matter may mean that a material principle has had part in the production of the activity. Such dependence is called *intrinsic*. An activity so produced will bear traces of its material origin. It will be extended, divisible, etc. It is not an activity that could serve to distinguish a spiritual being. Or, again the dependence of an activity on matter may mean simply that the operation of a material principle was necessary as a condition for the operation of a spiritual principle; if it were required, for example, to provide the object on which the spiritual principle

♦Cf. Maher: *Psychology,* 467.

could operate. This dependence is called *extrinsic* and is not incompatible with the spirituality of the being that requires it. Of course a being having such dependence on matter is not purely spiritual, for to be purely spiritual it should have entire independence of matter. With this understanding of dependence on matter we define a spiritual activity as one that has no intrinsic dependence on matter, and a spiritual being as one that is capable of operating, and hence of existing, without intrinsic dependence on matter. This is the nature of the spirituality that is claimed for the human soul.

Material and Spiritual Activities of the Human Mind

In regard to the activities of our minds, we know that some of them are carried on in connection with matter and that they have an intrinsic dependence on matter; that, indeed, they could not be carried on at all independently of matter. Such activities we call organic. The activities of the senses are of this kind. In the operation of the senses the material organ is always part of the principle from which the activity proceeds. This we can discover from examining the activities themselves. They are material and show evidence of having resulted from a cause that is material. They represent only material things, and in a material way, i. e., as individual things with definite qualities and dimensions.

On the other hand we claim for some of our mental activities that they show no trace of the action of a cause that is material. These, therefore, are immaterial activities and must proceed from a cause that is immaterial, and that in its operations does not depend on matter, except in so far as the action of a material agency may be necessary to furnish the object on which the higher agency can act. In this case the operation of the material agency would be a condition pre-required for the operation of the spiritual agency, but it would not be a cause of that operation. Rational thought, we

maintain, is an activity of this kind. For the activity of the senses is presupposed to the activity of thought. Rational thinking is had by abstracting from the concrete image present to the mind; but the concrete image could not be present to the mind without the previous activity of sense. Still in the thinking itself neither sense nor imagination is actually working. It is the intellect only that abstracts, universalizes, judges and reasons. Such activity, then, has no more than an extrinsic dependence on matter, and is consequently immaterial or spiritual.

Materialism

Opposed to all that we have here proposed is the claim of Materialism, ancient and modern, that the only reality in man is body, and that the activity which we call intellectual thought is not in any essential way different from the lower activities in man. The older, cruder, and what Professor James called the 'hard' materialism looked on thought as no more than a refinement of the mechanical activity of matter. But more recently 'soft' materialism has endeavored to escape the crudity of the older view by thinking of matter as something far superior to the concept held of it by the ancients, and as, therefore, capable of such activities as intellectual thought and spiritual desire. But this is to confuse the issue rather than to explain anything. Of course, if matter is so elevated in dignity as to be capable of intellectual thought, there would be no need of the soul as a separate principle. But then it would no longer be the matter we started the discussion with and would not be capable of the activities we recognize as characteristic of matter. 'Soft' materialism merely means that matter has been spiritualized to avoid the necessity of admitting the existence of a spiritual soul.

> The oldest Greek philosophy, the early Ionian, was materialistic, but its materialism seems to be less a matter of conviction than a result of the

failure to recognize the need of a spiritual principle for the explanation of reality. Anaxagoras was praised by Aristotle for having been the first to bring in mind in his explanation of the nature of things. Materialism appears again in the philosophy of the Atomists and later on in Epicurean philosophy in which everything is explained on the supposition of atoms falling through the void. The Stoics held that everything that could act or be acted upon was a body, and hence that only material things were real. In particular they held that the soul is material, because it acts on the body and in turn is acted on by the body. The soul, they said, was warm breath diffused throughout the body. Christian philosophy, of course, held to the spirituality of the soul. There was a revival of materialism at the time of the Renaissance, the pantheist Bruno teaching that matter is identified with the world-soul, or God. Thomas Hobbes (1588-1679) was materialistic in his belief that everything was to be explained mechanically. Materialism, too, is latent in all empiricism, inasmuch as the empiricist does not recognize the superiority of intellect over sense. In more recent times the progress made by physical science led to the hope that everything could be accounted for in terms of matter and motion, and this goes a long way towards explaining the materialistic trend in modern thought. In the 18th century the leading materialists were de la Mettrie and Holbach in France; and in the 19th century Büchner, Vogt and Moleschoot gave to Materialism a wide vogue in Germany. At the present time materialism is implied, though not always explicitly taught in all the psychology' that refuses to find in man any spiritual principle of intellectual activity and endeavors to explain the human mind without a soul.

Criticism of Materialism

Finding a certain dependence of the soul on the body for its operations, the materialists make this dependence the ground for the claim that soul and body are identified and that all activities, even intellectual thought, are functions of that particular form of organization of matter which we call a nervous system. They have failed, however, to take account of that important distinction between what we have called an intrinsic dependence and an extrinsic dependence. If it is true, as Scholastic philosophy maintains, that the soul is the form of the body, it will follow that all the activities of the compound, man, result from this form. But matter, too, enters into these operations, though in different ways. In some, body and soul together, as one principle, perform the operation, as is the case in sensation. For the principle of sensation is a compound principle made up of matter and form, Ixxly and soul. For such operations the soul need not be spiritual, as indeed it is not in the mere animal. But in other operations it is the soul alone that is acting, though even here the activity of the soul is conditioned by its need of a previous or accompanying activity of sense to supply the concrete object for the intellectual abstraction. This requirement will mean that the brain, or nervous system as a whole, must be in action while we are thinking. It does not mean, however, that our thinking is the activity of the brain or nervous system. Imagination always accompanies thinking; but this constant attendance of imagination on thought is no reason for identifying imagination with thought. Even the extreme contention of Biichner that, "without phosphorus there is no thought," might be true (though, of course, it is not capable of demonstration), and still it would follow merely that, since the soul is the form of the body, it needs the body for its operations. It is not a pure spirit, but a spiritual principle naturally designed and destined for union with a body.

Reasons for the Spirituality of the Soul

If our minds are capable of immaterial or spiritual activities, there must be an immaterial or spiritual principle for these activities. Now the mind is capable of such activities; we find it exercising them when it thinks, when it tends towards immaterial good, and when free choice is made. For thought with its abstractness and universality cannot be otherwise than immaterial. An organic action of the representative kind, such as sensation, is always the response to an actual stimulus, and cannot come from anything but an actually existing thing. Yet the object represented in thought may be the mere possibility of a thing, which could not serve as a stimulus for an organic faculty. Again, the abstractness and universality of thought forbid us to think of thought as organic, for only the concrete and individual thing can provide the stimulus for an organic faculty (Maher: *Psychology,* 5th edition, 240-241).

The tendency towards an immaterial good is also an immaterial activity. For the immaterial good could not exercise any attraction on a material faculty, since the material faculty could in no sense apprehend or appreciate it. Actually we know that we have tendencies towards immaterial goods; for we find ourselves desiring such things as honor, virtue, etc.

Free choice, too, must be the activity of an immaterial faculty. For free choice means that the faculty can in some circumstances determine itself to action. Now such self-determination is repugnant to the nature of matter, for in virtue of its inertia matter always tends to remain in the state in which it is unless determined to change by some influence from without.

4. Consequences of Spirituality: Creation and Immortality

Origin of the Soul

Substantial forms which merely actualize some potentiality of matter owe their origin to eduction from the potentiality of matter, as was explained in chapter XI. But when besides actualizing the potentialities of matter the form has other functions which are superior to matter, it cannot have been derived by eduction from the potentialities of matter to which it is superior. Now the human soul is of this latter kind. It cannot, therefore, have been educed from the potentiality of matter, and yet, as a finite thing, it must owe its origin to some form of production. To account for the origin of the soul two theories have been advanced:

a. Traducianism, the theory which maintains that the soul of the new individual is derived from the soul of the parents in generation;

b. Creationism, the theory which maintains that every individual human soul owes its origin to creation by God.

The simplicity and spirituality of the soul are insuperable objections against Traducianism. A spiritual substance cannot have been produced from matter; nor can it be derived by division from another spiritual substance; for every spiritual substance must be simple, and cannot, therefore, give part of itself to the production of anything else. In favor of Creationism is the consideration that, Traducianism being excluded as impossible, there is no other way except the way of creation in which the human soul could be produced. The idea that the soul might be the result of evolution from some lower form of mind cannot be entertained. For the intellectual power of the soul is something essentially different from sense; and therefore, no power of sense, however highly evolved, could ever become intelligence. Nor can it be rightly urged that creation would be a

miraculous origin for the soul. For if there is no other way in which the soul can be produced, creation belongs to the natural order of the soul's existence and consequently is not miraculous.

Immortality

There are two ways in which a thing can cease to be:

a. By dissolution into the elements of which it is composed. This was called in Scholastic philosophy *corruptio per se,* and is the normal way in which a compound being ceases to exist. But a simple being, since it is not composed of elements, cannot be destroyed in this way;

b. By the destruction of the body with which the life-principle is united and of which it is not intrinsically independent. This is called *corruptio per accidens.* In this way a life-principle would cease to exist if, though simple, it was intrinsically dependent on matter. For in that case, the matter being destroyed, it could not act and consequently could not continue to exist without its dependence on matter. So we may think the souls of animals perish. But a spiritual being cannot perish in this way, since it is not so dependent on matter.

The Natural Immortality of the Soul

A living being that is not subject to dissolution in either of these two ways is said to be intrinsically and naturally immortal. Such natural immortality means that, as far as the being itself is concerned, it has not any requirement for dissolution or any tendency to dissolution, but having once obtained existence would require to continue in existence. Whether or not it will actually continue to exist depends, in the case of a created being, on its being preserved in existence by the cause from which it has received its being. Actual immortality for a created being depends, then, not only on the nature of the being, but also on the will of God in regard to it.

The natural immortality of the soul is implied in its

spirituality and simplicity. If the soul is simple and intrinsically independent of matter, it can act, and consequently continue to exist, without the body. The dissolution of the body is therefore no reason why the soul should have to perish.

Opinions on the Subject of Immortality

The immortality of the soul is inconsistent with all forms of materialism, and consistently enough the Epicureans denied all future life and held that the soul perishes with the body. But the Stoics, though materialists, clung to the idea of a survival after death. In the pantheism of their system this survival was only temporary for the individual, for the ultimate destiny of the individual was re-absorption into the World Soul. Plato held to the immortality of the soul and defended it with many arguments; but some doubt has been cast on Aristotle's position as far as individual immortality is concerned. Christian philosophy has always held immortality as the only doctrine consistent with the Christian teaching. Among the Arabian Aristotelians Averroes taught the immortality of the active intellect, but as he interpreted Aristotle to mean that the active intellect was something separate from the individual minds and one and the same for all men. he denied individual immortality. In Kant the immortality of the soul is a postulate of the practical reason, but not a truth for the pure reason. The various forms of pantheism, while not explicitly denying immortality, take all the significance out of it by making it mean a re-absorption into the undifferentiated unity of the One, or World Soul, or Absolute.

Arguments for Immortality

The natural immortality of the soul being presupposed as implied in its simplicity and spirituality, it remains to show that the soul will have actual immortality. Now this actual immortality could fail the soul only in case the soul should be annihilated. Therefore it must be made clear that the soul cannot be annihilated by any finite power and that it will not be annihilated by God.

a. The soul cannot be annihilated by any finite power: Annihilation is the reduction of something to nothing. The effect of the action would be nothingness. But such an effect cannot be the result of any positive action, but only of the withdrawal or ceasing of a support which was necessary for the continued existence of a being. But the soul does not so depend on any created cause that the withdrawal of the support of that cause would result in the soul's ceasing to exist; for no created cause is in that sense necessary for the existence of the soul.

b. God will not annihilate the soul; for

1. There is no reason why God should annihilate the soul. Such reason, if there were any, would have to be found either in the soul's incapacity to act without the body; or in the unworthiness of the souls of the wicked to continue in existence; or in the fact that the end and purpose of the human intellect and will is attainable in the present life.

But the soul is capable of acting without the body, since it is spiritual; and the unworthiness of the wicked is rather a reason why they should continue to exist, at least for a time, in order that there may be some sanction for morality; and the end or purpose of the human intellect and will cannot be attained in the present life, or in the possession of finite truth and goodness, since intellect and will are capable of possessing truth and goodness without limit.

2. There are many reasons why God should not annihilate the soul. There is the capacity of the intellect

and will for truth and goodness without limit, and this capacity would be frustrated if the soul is not immortal. There is, moreover, the innate and invincible desire for perfect happiness which cannot be realized except in an immortal existence. For any end of existence, however far distant, would spoil the perfection of happiness.

3. God's intention of not annihilating the soul is shown in the nature of the soul itself. He has endowed it with capacities which cannot be realized without immortality, and He would contradict himself if He intended to annihilate a soul which He showed by its natural endowments to be made for immortality.

> It will be objected that the existence in us of a desire is no guarantee that in the world of reality there is fulfilment for that desire. To this, however, we must answer that the objection holds with regard to particular desires for particular goods—goods that may be dispensed with or substituted for or that arc not essential. But as for the desire for the essential good of one's nature, it cannot be true that it can be frustrated unless we are to give up all belief in the rationality of the scheme of things and in the goodness and wisdom of the Creator of them.

The Ethical Argument

Conscience proclaims that good must be done and evil avoided even at the cost of temporal loss and even at the cost of life itself. But this demand would be unreasonable unless there were a future life for the soul. For, if there were no future life for the soul, it could happen, and would sometimes happen, that fidelity to the demands of conscience would result in our ultimate disadvantage. Thus when one gives his life in the performance of duty, or lays down his life for his faith, or sacrifices it for another out of charity, his conscience tells him that he does right, and either demands such sacrifice or at

least commends it. But if there were no future life such sacrifices would be against reason, and therefore against conscience, because they would be opposed to our ultimate good. But, if there is a moral order at all, and not merely a moral chaos, conscience cannot command or commend what is against reason.

> Note that this argument proves the necessity of a future life, but does not prove that this future life must be perpetual. Therefore it does not prove immortality in the strict sense. Still, if the soul can and must survive the death of the body, there is not any reason why it should afterwards perish.

The Argument From Universal Belief

Men of all times and of all conditions and characters have held the belief in the immortality of the soul, so that we can maintain that this belief is practically universal. It is not belief according to appearances, for if anything would seem to be evident from appearances, it would be that death ends all. Men may find reason for doubting this belief, if they wish, or even for rejecting it entirely, yet the progress of knowledge has not brought forth any fact or argument that has at all weakened its reasonableness. The modern materialist has not advanced any further than the Latin poet, Lucretius, in his grounds for disbelief. The only conclusion we can draw from this is that the belief is a legitimate conclusion of reason from man's understanding of the meaning and purpose of human life, as shown to him in the purposiveness of creation, in the hopes and aspirations of his own nature, and in his faith in the wisdom and goodness of God.

5. The Union of Soul and Body

The Problem of the Relations of Soul and Body

How this simple and spiritual soul, owing its origin to creation and destined to an endless duration, can form a unity of substance, nature and person with the organic body, has furnished one of the most engrossing problems of philosophy. /Apparently, at least, the body influences the soul. Indisposition of the organism or injury to it may be accompanied by a derangement of rational function. And the soul, on its part, seems to act on the body : to originate bodily movements and to direct them. Our ideas are conditioned by certain movements of the nervous system, and these in turn are conditioned by other ideas. This influence, real or apparent, of body on mind and mind on body calls for explanation and furnishes the matter for the problem.

The problem originates in dualistic philosophy where body and spirit, matter and mind, are admitted on an equal footing in the explanation of reality. For monistic philosophy, in which reality is only matter, or only mind, or only some third sort of neutral thing manifesting itself at times as matter and at times as mind, the problem of union does not exist. Still, even the monistic philosopher must take account of the, at least apparent, influence of the physical activity by the psj'chical and vice versa. He will no longer speak of body and soul as two separate, though perhaps interacting, principles in human life, but he must regard the inter-relations of the physical and the psychical.

Theories

For "hard" materialism the so-called psychical side of human nature will be dismissed as merely a refinement of the physical and as needing, therefore, no separate consideration. But "soft" materialism will recognize in the psychical something to

be accounted for. Still, as even for this kind of materialism there is nothing real but matter, the psychical can be nothing but an "epiphenomenon," accompanying the physical, a sort of shadow cast by the physical phenomenon as it passes. For the idealist on the other hand, to whom mind is the only reality, it will be the physical that must be reduced to the status of a shadow. Body, or matter, is not a distinct reality. Its only existence is in being perceived.

Among dualistic philosophers Plato set up what we must regard as ultra-dualism. Soul and body are two entirely separate and, each in its own way, complete things. The soul is not by its nature destined for union with a body. It pre-existed and its confinement in a body is a kind of punishment. It is in the body somewhat after the fashion of a helmsman, in a ship or a rider on a horse, and rules the body as an external or foreign thing.

Aristotle handled the problem by applying to it his doctrine of Matter and Form. Body and soul are not two complete substances in themselves, but together form one complete substance, the human compound, of which the soul is the entelechy or form. The soul, according to Aristotle, is "the first entelechy of an organic body having life in potency." (*De Anima,* II. 1.)

Christian philosophy after having been under the influence of Plato through the leadership of St. Augustine, finally accepted the Aristotelian solution as explained and developed by St. Thomas and the other great Scholastics.

In the beginnings of modern philosophy Descartes went back to an ultra-dualistic standpoint. According to his doctrine of the two substances, the essence of body is extension, and the essence of soul is thought. Body and soul are thus two separate and

entirely distinct and opposed substances. The soul resides in the pineal gland of the brain and thence, through the "animal spirits" (certain refined elements of the blood) it rules the body. Descartes had set body and soul in such strong opposition that he could not maintain any inter-action between them. The inter-action is apparent only, not real. When I have an idea of moving my arm, the movement apparently takes place under the influence *of* the idea; but this, Descartes would have to claim, is in reality not so. The idea cannot influence the physical movement The divine assistance is needed to move my arm. This is called the Divine Assistance Theory and was more fully worked out in the Occasionalism of Geulincx and Malebranche.*

Leibnitz followed Descartes in holding that soul cannot act on body or body on soul. He considered, however, that the need of special divine assistance in each case was a clumsy expedient, and therefore he postulated a harmony which was established by God in the beginning, and according to which, body and mind, though they never interact, always keep parallel in their operations. If a certain bodily change corresponds to an idea, or an idea to a bodily change, it is not because body and mind have acted on one another, but because owing to the divinely pre-established harmony, bodily changes and mental changes always keep parallel.

Leibnitz thus furnished the suggestion for the modern theory of Psycho-physical Parallelism. It is fundamental in this theory to hold that body never acts on mind or mind on body, but that the physical activity and the psychical activity are always parallel. The idea of the divine action in pre-establishing a harmony is omitted. In its place the postulate of Panpsychism is brought in to explain

* See pages 152 sq.

why this parallelism should exist. Panpsychism postulates the co-existence of elements of consciousness with all matter. This is, of course, a purely gratuitous postulate for which there is absolutely no other foundation than the need which its adherents feel of explaining human life without admitting a substantial soul.

The Scholastic Theory of the Union of the Soul and Body

As was stated in the opening of this chapter, the Scholastic theory of the union of soul and body is that body and soul are united to form one nature and one compound substance—man. In this compound the body takes the place of the material principle, the soul the place of the formal principle. The soul, though spiritual, is not a pure spirit. Its activities are not merely the intellectual activities of thought and will. It performs as well the functions of a form in the human compound, and as form it is the radical source of all the activities of man. This relation to the body is natural to it; it is naturally designed for union with a body. This is shown from the nature of certain activities which the soul performs. In some of them, as in sensation, the body enters as a part principle. In such activities the dependence on the body is intrinsic. And yet these activities of sensation are natural for the soul to perform, for it has no other way of performing its own proper function of intellectual thought except with dependence on a foregoing sensation. Its ideas are all formed from the experience which is derived from the activity of the senses, and in its present condition, whatever may be true of its state of separation from the body, the soul is incapable of thinking without this dependence, which we have called extrinsic, on the body. Body and soul are not, then, opposed, as Descartes would have them. To be the form of the body is natural to

the soul. The soul requires to be united to the body, and this union is beneficial to it, not a detriment. Body and soul are incomplete in themselves; they get their completion from their union. The soul would, indeed, be a complete principle of rational thought without the body; but without the body the soul would be deprived of its only natural means of having the object of its thought presented to it. This union of soul and body is called a substantial union to indicate that body and soul together form one compound substance and one composite nature. According to the explanations of Plato and Descartes the union of body and soul would be merely accidental.

Arguments for the Scholastic Theory

St. Thomas draws an argument for the substantial union of soul and body from the evidence of conjoint activities of body and soul:

> "Though the soul has a certain proper motion of its own, which it performs independently of the body, namely the act of understanding, there are however other activities common to soul and body, namely those of fear, anger, sensation and the like; for these only come about by some change wrought in some part of the body; hence evidently they are conjoint activities of soul and body. Therefore out of soul and body there must result one being, and the two cannot be distinct in being." (*Contra Gentiles,* II, 58, Rickaby's translation.)

This argument of St. Thomas we may paraphrase as follows:

A union of soul and body into one compound nature is had when in some human operations soul and body together form one principle of operation. But such is the case; for in sensation the operation cannot proceed from the body alone, since it is a vital and conscious

activity, nor from the soul alone, for the soul, being simple, cannot represent extended things in an extended way as is done in sensation; nor from the body and soul acting separately, for then there would be two separate activities: the activity of the body and the activity of the soul, and the soul could not be conscious of the body's activity. Therefore sensation must proceed from body and soul acting together as one principle of operation.

That in this compound the soul is the formal principle is shown from a consideration of the nature of a form as compared with the nature of the soul's function in the compound. In any compound the part which determines the specific nature of the compound is the substantial form. Now this is what the soul does in man; for the human body by itself does not differ essentially in composition or structure from the mere animal body. There is no bodily difference between man and brute sufficient in itself to account for the superiority of man over the brute. Therefore the superiority is due to the soul, which, in consequence, is the element in man that determines the compound to be human.

Summary

In the human compound the soul is the substantial principle of human life, and is therefore simple and spiritual. Because of its simplicity and spirituality it must owe its origin to creation and it has natural immortality. It is not in itself a complete substance, but is the substantial form of the body, union with which is natural and beneficial to the soul.

Propositions to be Explained and Established

1. The human soul is a simple principle.
2. The human soul is spiritual, though not purely so.
3. The human soul owes its origin to creation.

4. The human soul has natural and actual immortality.

5. Union with the body is natural and beneficial to the soul.

6. Soul and body in man form one compound substance.

7. The human soul is the form of the body.

Points for Further Study

1. The Denial of the Soul in Modern Psychology. (Cf. Maher: *Psychology,* 474 sq.)

2. The Manner of the Soul's Presence in the Body. (Cf. Maher: *Psychology,* 562 sq.)

References

On the Substantiality of the Soul

Driscoll: *Christian Philosophy—The Soul,* 25-49.
Maher: *Psychology,* 461-466.

On the Simplicity of the Soul

Driscoll: *Christian Philosophy—The Soul,* 70-85.
Maher: *Psychology,* 466-469.

On the Spirituality of the Soul

Driscoll: *Christian Philosophy—The Soul,* 106-148.
Maher: *Psychology,* 469-474.
Mercier: *Manual,* I, 294-303.
Pyne: *The Mind,* 107-111.
St. Thomas: *Summa Theologica,* I, q. 75, a. 2.

On the Origin of the Soul

Pyne: *The Mind,* 122-130.
Driscoll: *Christian Philosophy—The Soul,* 211-233.
Mercier: *Manual,* I, 316-320.
St. Thomas: *Summa Theologica,* I, q. 90, a. 1, 2.

On Immortality

Driscoll: *Christian Philosophy—The Soul,* 224-244.
Maher: *Psychology,* 525-543.
Mercier: *Manual,* I, 321-328.
Pyne: *The Mind,* 131-138.
St. Thomas: *Summa Theologica,* I, q. 75, a. 6.

On the Union of Soul and Body

Driscoll: *Christian Philosophy—The Soul,* 168-210.
Maher: *Psychology,* 493-524; 544-578.
Mercier: *Manual,* I, 302-315.
Pyne: *The Mind,* 111-122.
St. Thomas: *Summa Theologica,* I, q. 76.

INDEX

Ab alio,
  sec Creature.
Abiogenesis,
  see Spontaneous Generation.
Absolute,
  and relative being, 32, 132,
  in modern philosophy, 32-3.
Abstraction,
  in metaphysics, 6.
Accident,
  and substance, 105-7.
  as being, 27
  cause of, 105
  distinct from substance, 105-6
  meaning of, 94-5
  not a constituent of substance, 106
  reality of, 104-5
  separate existence of, 107-9
  St. Thomas on, 104. 107.
Act,
  axioms regarding, 50
  definition of, 50
  see Potency.
Actuality,
  see Act.
"Aeterni Patris,"
  on force of philosophy, 8-9.
Albertus Magnus,
  on quality, 127.
Aliquid,
  sec Something.
Anaxagoras,
  on constitution of things, 167
  on mind, 223.
Anaximenes,
  on constitution of matter, 166.
Andronicus of Rhodes,
  editor of Aristotle, 4.
Animals,
  and plants, 204
  characteristics of, 205.
Annihilation,
  and the human soul, 229-30.
Aristotle,
  and abiogenesis, 202
  and hylcmorphism, 177
  and Scholastic philosophy, 12
  definition of metaphysics, 10
  "Metaphysics," 4
  on beauty, 87-8
  on change, 56, 58
  on extension and material substance, 117
  on "First Philosophy," 4
  on the four causes, 145, 165
  on goodness, 78
  on origin of philosophy, 1, 9
  on place, 121
  on potency and act, 51, 165-6
  on prime matter, 180
  on quality, 127
  on quantity, 117-18
  on reality, 19
  on relation, 135
  on union of soul and body, 233
  on unity of being, 56.
A se,
  see God.
Atomism,
  and electron theory, 174
  criticism of, 168-70
  Democritus, 167
  Gassendi, 121, 167
  Harper on, 168
  Leucippus, 167
  Lecrctius, 167
  materialism of, 223

modem, 170
on change, 57
on constitution of bodies, 167-8
on reality, 18
on space, 121
St Thomas on, 170-71
Augustine, St.,
and mediaeval philosophy, 12
on evil, 81-3
on good and evil, 82
on goodness, 80
on time, 123
on truth, 74, 77.
Averroes,
and immortality of active intellect 228.
Beauty,
and goodness, 84
Aristotle on, 87-8
definitions of, 86-9
in relation to metaphysics, 85
Longhayc on, 90
not purely subjective, 85
objective elements in, 86-7
St. Thomas on, 86, 88-9
transcendental notion, 89.
Being,
ab alio, 28
and nothing, 21
a sc, 28
beauty of, 84
concept of 20, 25-8, 64
divisions of, 13, 28
first principles derived from, 21
goodness of, 65, 80
in alio, 28, 94-5
infinite, 20-1, 28
kinds of, 28-33
logical unity of concept, 22-4
per se, 28, 95
transcendental attributes of, 63
truth of, 65, 72
unique, 71
unity of, 65.
Being-in-general,
see Being.
Bergson,
on reality, 19.
Biogenesis,
and abiogenesis, 202
Harvey on, 202
history of, 202
Pasteur on, 202-3
Redi on, 202
Body,
see Material substance.
Body and soul,
Descartes on, 233-4
Leibnitz on, 234
other theories of, 215
St Thomas on, 215, 236-7
Scholastic philosophy on, 214-15
the human compound of, 214-16
theories of, 232 seq.
union of, 232 seq.
Bonum,
sec Goodness.
Boscovich,
on constitution of matter, 172.
Bruno,
pantheism of, 223.
Casuality,
principle of, 140-1
sec Cause.
Cause,
and condition, 144
and occasion, 144
and substantial change, 165-6
Aristotle's four divisions of, 145, 165
constituent, 163

efficient, see Efficient cause
exemplary, 165
final, sec Final cause
First, 146
formal, 164-6
idea of, 144-5
instrumental, 146
intrinsic, 183
material, 163-6
principle and, 142
priority of, to effect, 143
reason and, 142
second, 146
Spinoza on "self-caused," 142.
Change,
accidental, 59
and material and formal causes, 165-6
definition of, 56
denial of, 57
kinds of, 58-9
real, 57
requirements for real, 58
substantial, 59
substantial, as proof of hylemorphism, 187-9
Circumscriptive presence, 116, 122.
Concept,
of being, 20-4
univocal and analogous, 24
Conceptualism,
and universals, 11.
Condition,
and cause, 144.
Conscience,
and immortality, 230.
Conservation of Energy,
law of, 196.
Constitution of bodies,
among early Greeks, 166
and vitalism, 198
atomism, 167-170
Boscovich's theory, 172-3
dynamism, 171
electron theory, 174
energism, 173-4
Leibnitz's theory, 171-2
theory of matter and form, 177 seq.
Contradiction,
principle of, 21
Cousin,
on beauty, 88.
Creationism,
and human soul, 226.
Creator,
see God.
Creature,
relation with creator, 134.
Darwin,
on evolution, 209.
Death,
dissolution, 227
of organism, 194.
Definitive presence, 116.
Democritus,
atomic theory, 167.
Dependence,
intrinsic and extrinsic, 220
of soul on body, 220-22.
Descartes,
and occasionalism, 152
on essence of Ixjdy and spirit, 233
on extension, 117
on men's idea of infinite, 30
on organic life, 196
on possibility, 52
on space, 121
on substance, 103, 106
on union of soul and body, 233-4
De Vries,
mutation theory of evolution, 210.
Disposition,
and habit, 128.

Distinction,
kinds of, 70
meaning of, 69
mental, 70
virtual, 70
see Identity.
Divine Assistance Theory,
Descartes on, 234.
Division,
essential, 118
quantitative, 118.
Dreisch,
on cntelcchy, 199.
Dualism, 232-5.
Duration,
and eternity, 124
and time, 123
of temporal and eternal being, 23
successive, 123
without succession, 124.
Dynamism,
Boscovich and, 172-3
criticism of, 173
Leibnitz and, 171
Pythagorean, 171
theory of constitution of matter, 171.
Eduction,
of form out of potentiality of matter, 184
of substantial form, 185.
Effect,
antecedents of 144
perfection of 154-5
priority of cause to, 143, 155
simultaneous with cause, 148.
Efficient cause,
attacks on validity of idea of, 148
axioms regarding, 154-6
definition of, 146
First, 146
Hume on, 148-51
instrumental, 146
Kant on, 145, 151
kinds of, 146-7
necessary, 147
occasionalism and, 152-4
Onesidcmus of Crete on, 148
second, 147
validity of idea, 151-2.
Eleatics,
on change, 57
on reality, 18
on real unity of being, 23.
Electron Theory,
of matter, 174.
End,
see Final cause.
Energism,
theory of constitution of matter, 173-4.
Ens,
sec Being.
Entelechy,
Drcisch on, 199
principle of life, 199.
Epicureans,
and atomic theory, 167
and immortality, 228
materialism of, 223
on reality, 18.
Epistemology,
a division of philosophy, 4
see Theory of knowledge.
Essence,
and nature, 45
and potency, 51
and substance, 45
controversy about, 39
immutability of, 38, 68
individual, 36
knowableness of, 42-5
meaning of, 36
metaphysical, 37
of substance, 96
physical, 37
properties of, 38
specific, 37

Esthetics,
see Beauty.
Eternity, 124. ..
of essences, 38.
Evil,
and Providence, 83
definition of, 81
nature of, 81
no principle of, 82
St. Augustine on, 81-3
St. Thomas on, 81, 83-4
Evolution,
Darwin on, 209
emergent, 210
Lamarck on, 209
meaning of, 206-7
metaphysical aspects of, 210-11
mutation theory' of, 210
ontogenetic, 208-9
phylogenetic, 208
St. Thomas on, 207
theories of, 208-10
Weissmann on, 210.
Existence,
and act, 51
controversy about, 39
meaning of, 38
of substance, 100.
Extension, 116-7.
Falsity,
meaning of, 77
see Truth.
Final cause,
casuality of, 157
definition of, 156
existence of, 157-9
St. Thomas on, 157-9.
Finite,
and infinite being, 28-31.
perfection, 29.
Fixism,
and Transformism, 206-8.
Form,
a kind of quality, 127
hierarchy of, 186
human soul as, 184, 214, 233
matter and, 178-80
St. Thomas on, 186
see Substantial form.
Gassendi,
on constitution of bodies, 167
on space, 121.
Genus,
and concept of being, 28
and potency, 51
see Species.
Geulincx,
occasionalism of, 153
God,
and annihilation of soul, 229-30
and evolution, 208
and religion, 3
and the possibles, 47, 53-5
as Absolute being, 32
as being, 26-7
as being a se, 99
as First cause, 146
as Infinite being, 29-31
as person, 110-12
as substance, 99
Descartes on idea of, 30
Pythagoras on, 10.
Goodness,
Aristotle on, 78
as final cause, 156
degrees in, 81
kinds of, 79
meaning of, 78
of being, 65, 80
St. Augustine on, 80-1
St. Thomas on, 78-80
transcendental notion, 80.
Habit,
acquiring of, 130-1
and disposition, 128
meaning of, 128, 131
powers affected by, 129-30

St. Thomas on, 130 note
supernatural, 129.
Haeckel,
on organic life, 198.
Harper,
on atomism, 168.
Harvey,
on biogenesis, 202.
Hegel,
fundamental idea behind philosophy of, 8
on beauty, 88
on indeterminate being, 60
on principle of contradiction, 22
on substance, 98.
Heraclitus,
and principle of contradiction, 21
denial of substance, 100
on change, 57
on constitution of matter, 166
on reality, 18.
Hobbes,
materialism of, 223.
Hume,
on cause, 148-51
on knowability of essence, 42
on substance, 102
on substantiality of soul, 216
Huxley,
on organic life, 195.
Hylemorphism,
a metaphysical theory, 179
proof of, 187-9
theory of constitution of matter, 177, 178.
Hypostasis, 109.
Ideal,
being, 33.
Identity,
and distinction, 69
definition of, 68-9
principle of, 21
theory of mind and matter, 172.
Imagination, 224.
Immaterial,
meanings of, 5-6.
Immortality,
arguments for, 229-31
of human soul, 227 seq.
Impossibility,
divisions of, 48
sec Possibility.
In alio,
see Accident.
Individual,
constitution of, 72
essence, 36
Suarez on, 72.
Individuation,
principle of, 71.
Infinite,
and finite being, 28-31
as being, 26-7
being, 20-1.
Inherence,
existence in alio, 95.
Intellect,
empericists on, 218
James on, 222.
Intelligibility,
and possibility, 55
of being, 73-4.
James,
on philosophy, 15
on substance, 217-18
on substance, 102-3
on truth, 76.
Jouffroy,
on beauty, 88.
Kant,
on constitution of matter, 171
on efficient casuality, 145, 151
on immortality of soul, 228
on relation, 137
on space, 121

on substantiality of soul, 217-18.
Lamarck,
on evolution, 209.
Leibneitz,
on constitution of matter, 171-2
on parallelism, 172, 234
on union of soul and body, 234.
Leo XIII,
on value of philosophy, 8-9.
Leucippus,
atomic theory, 167.
Life,
as problem for metaphysics, 191
inductive definition of, 191-2
St. Thomas on, 191.
Life, organic,
biogenesis and abiogenesis, 202
Descartes on, 196
grades of, 204-6
Haeckel on, 198
Huxley on, 195
mechanical theory of, 195-8
distinct from quantity, 117-18
is composite, 178
matter and form in, 178
mode of presence in space, 116, 122
not identified with extension, 117
prime matter and, 180
Matter,
and form, 178-80
second, 182
see Prime matter.
Matter and form,
and the human soul, 214 seq.
and the organism, 191 seq.
hylemorphism, 177-9, 187
St. Thomas on, 181
theory of, 177 seq.
Mechanism,
and casuality, 157-9
and life, 195-8
see Atomism.
Memory, 219.
Mercier,
on essence and existence, 40
on individual, 72.
Metaphysics,
Aristotle's definition of, 10
beauty in relation to, 85
definition of, 4-6, 10
derivation of name, 4
formal object of, 9-10
neo-vitaliStic theory of, 199
origin of, 201
plant and animal, 204
principle of, 200
St. Thomas on, 204, 207
species in, 206
theories of, 194
vitalistic theory of 198, 200.
Limit,
definition of, 29.
Locke,
on knowability of essence, 42-3
on personality, 112
on substance, 101-2.
Logical,
being, 33
unity of being, 22-4.
Longhaye, G.,
on beauty, 90.
Lucretius,
atomic theory, 167.
Malebranche,
occasionalism of, 153,
Maritain, Jacques,
on beauty, 88-9.
Materialism,
and union of soul and body, 232-3
criticism of, 224

modern, *223*
of James, *222*
of die Greeks, 223
of Thomas Hobbes, 223.
Material substance,
as second matter, 182
importance of, 7-9
Leo XIII on, 8-9
life as problem for, 191
Paulsen on, 8
pre-suppositions of, 10-11
Mill,
on substance, 102
on substantiality of soul, 217.
Mind,
Anaxagoras on, 223
material and spiritual activities of human, 221 seq.
materialists on, *222* seq.
see Soul, human.
Monism,
and substance, 103.
Morgan,
Emergent evolution, 210.
Motion,
in an organism, 193
see Change.
Multiplicity,
real, 23-4.
Nature,
and essence, 45
and person, 110
and substance, 45, 109
theories of human, 215.
Necessary,
and contingent being, 31
cause, 148-9.
Necessity,
of essences, 38.
Neo-vitalism,
as theory of life, 199.
Nominalism,
and knowableness of essence, 42
and universals, 11.
Nothing,
and being, 21.
Object,
formal and material, 9-10.
Occasion,
and cause, 144.
Occasionalism,
and parallelism of Leibnitz, 172
Descartes and, 152
Geulincx and, 153
Malebranche and 153
St. Thomas on, 153-4.
Ockam,
on possibility, 52.
Onesidemus of Crete,
on cause, 148.
Operatio sequitur esse,
and essence, 44
and life, 192
and nature, 188.
Organism,
and principle of life, 199
characteristics of living, 193-4
definition of, 192.
Organization,
of organism, 194
of plants and animals, 205.
Panpsychism, 234-5
sec Parallelism.
Pantheism,
and substance, 103
of Bruno, 223
real unity of being, 23.
Parallelism,
Leibnitz and, 172, 234
Psycho-physical, 172-234.
Parts,
essential, 118
quantitative, 118
of organism, 192.
Pasteur,
on biogenesis, 202-3.

Paulsen,
on philosophy, 8.
Perfection,
and beauty, 87
and evil, 81-3
and goodness, 79
definition of, 28
finite and infinite, 29
in effects, 154
of being, 29.
Perrier,
on constitution of matter, 166.
Per se,
see Substance.
Person,
and nature, 110
and thing, 110
definition of, 110
relation to nature, 110
relation to substance, 109.
Personality,
and consciousness, 112
does not imply limitation, 111
Locke on, 112
meaning of. 111
multiple, 112.
Philosophy,
and religion, 3
definition of, 2-3
divisions of, 4
fundamental problems of, 2
James on, 15
Leo XIII on force of, 8
origin of, 1
Paulsen on, 8
the method of, 2-3
value of, 8-9.
Physics,
division of philosophy, 4
in Aristotle, 4-5.
Place,
Aristotle on, 121
meaning of, 121-2
presence in, 116, 122-3.
Plants,
and animals, 205
characteristics of, 205.
Plato,
and immortality of human soul, 228
ultra-dualism of, 233.
Possibility,
and intelligibility, 55
derived from existing things, 56
divisions of, 48
nature of, 47
ultimate reason of, 51-6.
Potency,
and act, 59-60
and change, 59
and possibles, 48
Aristotle on, 51, 165-6
axioms regarding, 50
natural, 49
preternatural, 49
prime matter and, 179-80
reduced to act by actual being, 59-60
supernatural, 49
see Act.
Potentiality,
see Potency.
Prime matter,
and material substance, 178, 180
and second matter, 182
casuality of, 183
description of, 180
is potentiality, 179-80
Principiate,
definition of, 142
priority of principle to, 143.
Principle,
and cause, 142
definition of, 6
first, 6-7

first, derived from notion of being, 21-2
of casuality, 140-1
of contradiction, 21
of excluded middle, 22
of identity, 21
of life. 200
of sensation, 224
of sufficient reason, 140
priority of, to principiate, 143
St. Thomas on, 142
Priority,
of cause to effect, 143
of nature, 143
of time, 143.
Privation,
cannot exist as such, 33.
Providence,
and evil, 83-4.
Purpose,
sec Final cause.
Pythagoras,
and dynamism, 171
on the philosopher, 10.
Quality,
Albertus Magnus on, 127
and essence, 43
Aristotle on, 127
change in, 58
characteristics of, 127
existence of, 126
meaning of, 126
species of, 127.
Quantity,
Aristotle on, 117-18
change in, 58
distinct from substance, 118
formal effect of, 119
meaning of, 117.
Realism,
extreme, 11
moderate, 10-11.
Reality,
and actuality, 60
and the unreal, 17
Aristotle on, 19
as perfection, 28
atomists on, 18
Bergson on, 19
Eleatics on, 18
Epicureans on, 18
Heraclitus on, 18
Redi,
on biogenesis, 202.
Relation,
Aristotle on, 135
axiom regarding, 136
existence of logical, 136
existence of real, 136-8
foundation of, 135
logical, 134, 136
meaning of, 132-3
mixed, 134
real, 136
relative being, 132
requirements for real, 133
Rickaby on, 134
transcendental and predicamental, 135
Relative,
definition of, 32.
Religion,
and philosophy, 3
definition of, 3.
Repulsion,
in dynamism, 173
Kant on, 173.
Res,
see Essence.
Rickaby,
on constitution of individual,
on mixed relation, 134
on truth, 75
on unlimited being, 30.

Scholasticism,
and Aristotle, 14
and realism, 10-11
in Middle Ages, 11.
Scotus, Dans,
on constitution of the individual, 72
on distinction, 71.
Sensation,
cause of, 237
principle of, 224.
Something,
being as, 65.
Soul, human,
and body in human nature, 214-16
as a form, 184, 214, 233
denials of substantiality of, 216
immortality of, 226 seq.
origin of, 226
St. Thomas on, 215-216
simplicity of, 219-20
spirituality of, 220-225
substantiality of, 216-19
union of body and, 232 seq.
see Body and Soul.
Space,
concept of, 120
Descartes on, 121
Gassendi on, 121
imaginary and real, 120
Kant on, 121
nature of, 121
Suarez on, 121
Species,
and act, 51
see Genus.
Spencer, Herbert,
on substance, 98.
Spinoza,
fundamental idea behind philosophy of, 7
on substance, 103
on the "self-caused," 142.
Spiritual substance,
human soul a, 219 seq.
presence in space, 116.
Spontaneous Generation,
Aristotle on, 202
history of, 202
Pasteur on, 202-3.
Stoics,
and immortality of human soul, 228
materialism of, 223.
Suarez,
on constitution of the individual, 72
on essence and existence, 39
on metaphysics, 5
on space, 121.
Substance,
and accident, 105-7
and nature, 45, 109
and essence, 45
as applied to God, 99
as being, 27
as subject, 109
as substrate, 97
definitions of, 101 seq.
Descartes on, 103, 106
essence of, 96
first and second, 98
Hegel on, 98
Heraclitus on, 100
Hume on, 102
incomplete, 98
Locke on, 101-2
Mill on, 102
not made up of accident, 106
St. Thomas on essence of, 96
Spencer on, 98
Spinoza on, 103
taken absolutely and relatively, 96-7
validity of, 100 seq.

Substantial Form,
and materia! substance, 178
and Prime matter, 178
casuality of, 183
definition of, 178
eduction of, 185
human soul as, 184
origin of, 183
unity of, 185

Summa Theologica,
divisions of, 12
method of referring to, 12.

Suppositum, 109.

Terminus,
in change, 58-9.

Thales,
on constitution of matter, 166.

Theory of knowledge,
first requirement for, 7
sec Epistemology.

Thing,
and person, 110
sec Essence.

Thomas Aquinas,
and hylemorphism, 177
definition of essence, 36
divisions of "Summa," 12
method of referring to -Summa," 12
on accidents, 104,107
on atomism, 170
on beauty, 86, 88-9
on essence of substance, 96
on evil, 81, 83-4
on evolution, 207
on existence, 38
on final cause, 157-9
on forms, 186
on goodness, 78-80
on habit, 130 note
on life, 191-2
on living things, 204
on occasionalism, 153
on prime matter, 181
on principle, 142
on potency and act, 60 note
on transcendentals, 64-5
on truth, 72, 74-5
on union of soul and body, 215, 236.

Time,
meaning of, 123-4
priority of, 143.

Traducianism,
and human soul, 226.

Transcendental,
attributes of being, 63-93
beauty, 89
goodness, 80
truth, 73-5
unity, 66.

Transformism,
see Evolution.

Truth,
James on, 76
of being, 65, 72
ontological, 72
relativity of, 75-7
St. Augustine on, 74, 77
St. Thomas on, 12, 74-5
transcendental notion, 73-5

Unchangeableness,
of essence, 38.

Unity,
definition of, 65
kinds of, 66
logical, 67
metaphysical, 66
moral, 68
of being, 64
of prime matter, 181
of soul and l>ody, 214-15
of substantial form, 185
physical, 67
transcendental notion, 66

Universals,
cannot exist as such, 33
moderate realism, 10-11
possible theories of, 11
question of, 33.
Unum,
see Unity.
Verum,
see Truth.
Vitalism,
theory of life, 198-9.
Weissmann,
on evolution, 210.
Wolff, Christian von,
division of metaphysics, 4.
Wundt,
on substantiality of soul, 217.
Xenophanes,
on reality, 18.
Zeno, the Eleatic,
on change, 18.